Address
ON THE
INFECTIVENESS OF TUBERCLE,
WITH SPECIAL REFERENCE TO
TUBERCULAR CONSUMPTION.

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GENTLEMEN,—I thank you most cordially for the honour you have done me in asking me to preside at this annual meeting of the North of Scotland Medical Association. I consider it not only an honour, but also a great pleasure, inasmuch as it gives me an opportunity of renewing my acquaintance with gentlemen with almost all of whom I have previously been placed in the pleasing relationship of teacher and pupil. As it is customary at these annual gatherings for the President to bring before the associated members some topic of medical or surgical interest, I have thought it would not be unprofitable to dwell for a few minutes on some of the researches in later times on the etiology of tuberculosis, as they tend to enlarge our conceptions of contagion; to correct many previously held doctrines regarding tubercle; to establish a substantial claim of contagiousness for that widespread and awfully fatal malady, consumption; to reveal to us its specific contagium or specific infecting medium; and to explain the facility with which it can be spread in a community. It has been said that one-seventh of all the deaths throughout the world and one-third of the deaths in active middle life are caused by tubercular disease. If this is correct, it must be all-important to be familiar with every addition to our knowledge of this important subject. The elaborate investigations carried on during the last few years regarding the etiology of infective diseases are of the highest interest to the practical surgeon and the sanitarian; but I intend on the present occasion to limit my remarks to the subject of the infectiveness of tubercle, perhaps the chief source of consumption, which is the commonest and most fatal manifestation of tubercular disease; and, as bearing on this important subject, to draw attention to the researches of recent experimental physiologists, ending with the remarkable discoveries of Koch, formerly of Breslau, and now chief of the Imperial Health Department of Berlin. Without going so far as Laennec did in his belief that phthisis is always tubercular, yet, if we grant that this widespread and fatal disease is in the main of tubercular origin, we cannot over-estimate the researches on the infectiveness of tubercle, which must greatly influence the therapeutics of those who believe in them.

It is not my purpose to consider whether the two processes now called by the separate names of the scrofulous and the tuberculous are really identical; nor to enumerate all the opinions promulgated on the pathology of phthisis; nor to review the facts advanced in support of the opinion that the little nodular growths, composed of giant-cells and a branched reticulum, and to which the name tubercle is now commonly limited, are always due to primary non-specific inflammatory action; but rather to trace recent experimental investigations with a view to showing how they prove that consumption is due to an infective process, and some of them to afford demonstrative proof of the morbific agent which so injures the pulmonary tissue as to lead to its subsequent consolidation and ulceration. They seem to justly claim for consumption the character of infectiveness arising from a special parasite. The contagiousness of consumption is not, however, promulgated for the first time in our own immediate day, nor even in the recent past, for in all ages, probably, some have held this belief. Thus Galen believed in its contagiousness, and ordered consumptive patients to inhale the vapours from the crater of Etna, whilst Morgagni, in his day, was of the same opinion. We read also that this belief has always prevailed in Italy, Spain, and other countries of Southern Europe. In our country and day many great men have denied this doctrine, whilst some have specially promulgated it. Thus, looking back on the more recent past, we find the late Dr. William Budd of Bristol, thirty years ago, as the result of clinical observation, expressing the opinion that pulmonary consumption was allied to the eruptive fevers, and differed from them only in its degree of virulence, and consequent rate of progress. He entertained no doubt in his own mind that it is of a highly contagious character; that its virulence in any country is in the inverse ratio of its duration there, being most rapid and fatal on its first introduction, and becoming, by long continuance, as in our own country, of a milder type and more chronic character. Thus we are told that when first introduced into the Sandwich Islands it sometimes proved fatal in less than six weeks; and we are all familiar with the fact that it often drags on, in our own country, a slow and at times intermitting course, extending over months or years. Still, these views of Budd obtained but few adherents, for the great bulk of physicians, dependent solely on clinical observation and practical experience, were decidedly of opinion that consumption could not be spoken of as a contagious disease in the same sense as the ordinary eruptive fevers are. Within later years, however, much has been done to give us more enlarged and precise views on the subject of contagion, and much that mere practical experience and clinical observation could not determine has been solved, and made matter of demonstrative proof by recent experimental investigations.

Now, if we assume, as already remarked, that consumption is, in the main, tubercular, its widespread diffusion is easily accounted for by the results of these researches and experiments, which, at the outset, proved that there was something in tubercle which possessed infective properties, and have culminated, in the hands of Koch, in making the special contagium, or the precise infecting organism, a matter of demonstrative proof.

About twenty years ago Buhl taught that acute tuberculosis was of an infective nature, and was owing to the existence of a primary inflammatory induration which had become caseously degenerated, and to the absorption of particles from the caseous mass. His view was that the infective substance was always associated with the secondary caseous change, but recent experiments on the artificial induction of tuberculosis in animals render this view untenable.

In 1865 Villemin commenced a series of experiments to prove that tubercle was an infective disease, and demonstrated the fact that caseation of the tuberculous matter was not necessary to constitute it a focus of infection. He took little bits of tuberculous matter, about a pin's head in size, from the body of a man, or a cow or rabbit, and inserted them under the skin of the ears, groins, or other parts of dogs and rabbits. The result was that the wound at first healed, but afterwards became red and swollen, and ultimately ulcerated, owing to the development of a tuberculous mass. If these animals were killed after fifteen days from the date of inoculation, a caseous mass, surrounded by small yellow granulations, was found at the seat of the wound; tubercles were found in the viscera, especially in the lungs; and, besides grey granulations, infiltrated masses of tubercle were discovered in varying conditions, according to the date of the animal's death. He found like changes to occur in instances where he injected hypodermically small quantities of the sputa of consumptive patients, mixed with water.

Chauveau of Lyons obtained like results from all his experiments, which were of three kinds. First, he gave some oxen, by the stomach, portions of tuberculous matter got in some instances from man, and in other cases from oxen, which are very prone as a class to what is known by the names of "pearl disease," "angle berries," or "grapes," from the peculiar condition of the serous membranes, or, generally, bovine tuberculosis; second, he inserted particles of tuberculous matter into the connective tissue; and, third, he injected into the veins water into which tuberculous matter had been placed and had been filtered. In all cases tubercle granulations were found in the lungs, and all the animals contracted tuberculosis

We may here conveniently mention that Dr. Charles Creighton, in his interesting work on bovine tuberculosis in man, published last year, describes numerous cases in which a condition of organs in the human subject was found similar to that seen in oxen dead of tuberculosis; and he establishes

the extreme probability that the disease is not unfrequently transmitted to human beings through eating the flesh or drinking the milk of diseased cows. Professor Gerlach also states that healthy oxen can be infected through the milk of sickly cows, or by taking with their food portions of tuberculous matter from the organs of affected animals.

These investigations proved that tuberculosis could be produced in suitable animals by the introduction, in various ways, into their systems of true tuberculous matter; but some years ago Dr. Burdon Sanderson and Dr. Wilson Fox performed various experiments on rabbits and guinea-pigs, which they believed to prove that tuberculosis could be produced in these animals by inoculating them with any of the products of ordinary inflammatory action, or even by such substances as fatty liver or putrid muscle—nay, even by the production of local injuries, such as a deep wound, or the insertion of a seton. For a time many concurred in these opinions, and viewed the bodies found after the experiments of Villemin, Chauveau, and others as mere inflammatory products, or infarctions, and not true tubercles at all; but the tendency of more recent experiments is to cast doubt on the assertion that any irritating foreign body could induce tuberculosis in these animals, and to confirm the belief that true tuberculous matter alone can produce general tuberculosis, and that the products of inoculation with non-tuberculous matter are not true tubercle, but what Dr. Hippolyte Martin of Paris calls false or "pseudo-tubercle." His experiments are so remarkable, and his statements so decided, that we must refer to them; but in doing so we may as well premise that he holds that true tubercle is an infective malady originating in a specific though undetermined virus, and that its propagation arises solely from the conveyance of this virus from body to body. By this one peculiarity, he maintains, is it possible to determine true infective tubercle from the false or non-infective. True tubercle produces general tuberculosis from a local infection, the virus increasing with successive inoculations; whereas non-tuberculous matter after inoculation produces a local tubercle, but inoculation from this secondary tubercle is quite powerless to produce general tuberculosis. He says it is always indispensable to conduct experiments on this matter with the most rigorous regard to antiseptic precautions, lest particles of real tubercle be accidentally injected, and this is the more important because, according to him, it is impossible to distinguish under the microscope, so far as anatomical characters go, between true and false tubercle—the one only distinguishing feature being the infectiveness of true tubercle. In this he is supported by Professor Cohnheim, who, though I am not able to quote his exact words, had previously given his opinion to the effect that under the head of tuberculosis should be ranked all that after its inoculation on suitable animals produces tubercle, whilst all that fails to do this is not tuberculous; and that the anatomical definition of tubercle is useless and must give place to the etiological.

Dr. Martin conducted two sets of experiments to prove the infectiveness of tubercle. With the greatest antiseptic precautions, he injected into the peritoneal cavity of guinea-pigs irritating substances of vegetable and animal nature, such as pepper, cantharides, fragments of sarcoma, particles from a carcinomatous mamma, particles from the cascation of a sarcomatous tumour, and other non-tubercular matters, with the results that in most instances the animals remained quite healthy, and when killed had no disease of the viscera. In other cases he showed that foreign bodies could set up ordinary inflammatory action, the products of which could not be anatomically distinguished by the microscope from the true tubercle, which always followed inoculation with true tuberculous matter. These secondary tubercles, after inoculation with tuberculous matter, had the distinguishing characteristic of increasing infectiveness from successive inoculations. Hence he concludes tubercle is an infective malady, owing to the presence of some morbific agent, peculiar to it, but undetermined. This agent Koch seems to have discovered in the form of a minute organism, which now goes by the name of the bacillus of tubercle. We may, however, previously enumerate experiments which, while proving that tubercle is infective, also demonstrate some additional ways in which the parasite may find an entrance into the bodies of unaffected persons.

Tappeiner, Bertheau, Weichselbaum of Vienna, and other investigators, caused dogs and some other animals to breathe an atmosphere in which the sputa of consumptive patients, and other forms of tuberculous matter, were diffused in the form of spray; whilst they made others respire air through which they diffused atomised liquids impregnated with non-tuberculous substances. The results of these experiments were as follows. In all cases where real tuberculous matter was used, tubercles were found in the lungs, kidneys, and other organs, but especially in the lungs, the abundance of the tubercle being generally proportionate to the length of the experiments and the frequency of the inhalations. In those cases again where non-tuberculous matter was sprayed into the air, either no tubercles were found, or only a very few nodules, and these, perhaps, of doubtful character.

Again, in France, M. Giboux operated on rabbits directly with the air itself expired by consumptive patients, with a view to determine whether it could induce tuberculosis in healthy animals. Into one room he placed a cage containing two healthy rabbits, and into it he passed daily, for some time, twenty or twenty-five litres of air expired by phthisical patients. Into another separated room he placed a second cage also containing two healthy rabbits, and into it he passed daily a similar amount of air expired by consumptives, but previously filtered through tow charged with carbolic acid. The consequences were, that at the end of about three months, the rabbits in the first-named cage became emaciated and showed signs of disease, and at death tubercles were found in all the organs, but especially in the lungs; whereas, in the second pair of rabbits, there seemed to be no injury to health at the end of a like period, and their organs, when the animals were killed, were found free of tubercles.

All these various modes of artificially producing tuberculosis in suitable experiment-animals—some by inoculating tuberculous matter beneath the skin, some by giving it by the stomach, some by injecting it into the veins, others by giving it through inhaling an atmosphere impregnated with tuberculously tainted spray, and others by directly administering the breath of consumptive patients,—point to the conclusion that there must be some special infecting virus in real tubercular matter. About five years ago Professor Klebs stated that the contagiousness of tubercle was owing to a microphyte, and his discovery regarding tubercle was proved, by Dr. Schüller of Greifswald, to hold good regarding certain affections termed scrofulous; as, for example, scrofulous affections of glands and scrofulous disease of joints, in all of which he said the same microphyte was found.

We will, however, in closing, refer at greater length to the experiments of Koch of Berlin, as they are the latest, the most striking, and, perhaps, the most decisive. Koch had previously acquired an extended and great reputation by his exhaustive researches into the contagium of splenic fever. His great aim was to discover what the precise character of the contagium was which rendered tubercular disease communicable from one individual to another, and capable of indefinite reproduction. The result of his experiments was, that in all true tubercles found in cases of general tuberculosis, a special micro-organism was discovered. It may be fittingly asked, Do these micro-organisms or parasites occur in any numbers, do they in any degree infest the tissues of a healthy living body, or do they occur only in special states of disease? Koch and others are decidedly of opinion that they do not occur in the tissues of healthy living bodies; and they have also proved that, though different parasites live and flourish under somewhat varying temperatures and attendant circumstances, yet they all agree in this, that, when once introduced into the living body, their life and increase are greatly favoured by a low state of the general health. According to Koch, the tubercle bacilli are found within the giant-cells, and they are delicate rod-shaped bodies varying in length from one-quarter to one-half the diameter of a blood-corpuscle. We are further told that these bodies are most numerous in recent and advancing tubercle, and that they become fewer in proportion as the tubercle gets older, and finally disappear on the healing up of the tubercular disease. Dr. Koch also tested the expectoration of many who were suffering from consumption, and invariably found in it multitudes of bacilli, while he could discover none in the sputa of non-consumptive patients. He also found that the bacillus of tubercle required, in inhabitants of the temperate zone, about the warmth of the animal body for its growth and increase; and, in this respect, it differs from the bacillus of other diseases, for we are told that the bacillus anthracis found in cases of splenic fever can live in a temperature much lower than that of the body—outside the body in fact. Having discovered the parasite, the next point which Koch set himself to decide

was whether or not it was the real and only cause of infection; or whether some of the matters by which it was surrounded were so. To determine this point it was needful to differentiate the bacilli from the tissues in which they lay; and this he succeeded in effecting by means of a special dye. To make sure that it was the parasite alone that was the medium of infection, and not any surrounding virus, he cultivated the bacilli artificially through many successive generations. With a speck of tuberculous matter from a human lung, he infected different substances, carefully prepared, so as to afford nutriment to the parasite. From these he infected fresh nutritive material, and so on, till many broods of the parasite were obtained. After the bacilli had been several times transferred from one soil to another, the original tubercular matter was at length got rid of, and nothing but the bacilli was left behind. Now, inoculation with these bacilli, isolated from all the original surrounding matter, was followed by reproduction of the parasite, and by the induction of tuberculosis, as certainly as was inoculation with a speck of tuberculous matter containing living bacilli. The same results followed when the bacilli were placed in fluids contained in porous clay vessels—inoculation with the fluid which was sweated through the clay was innocuous, whilst inoculation with the bacilli was followed by their reproduction, and by tuberculosis.

We have thus traced a belief in the contagiousness of consumption held by a few probably in all ages, springing from observation and practical experience; and we have seen how it is justified by the results of experimental research in our own days, and that at last, within the past few months, the precise infecting parasite has been made a subject of microscopic demonstration.

Now, if Koch's statement, already mentioned, that one-seventh of the human race die of tubercular disease, and that this disease causes fully one-third of the deaths occurring in active middle life, be true, it is impossible to overstate the importance of his discoveries regarding the nature of the bacilli found in tubercle, and in the expectoration of consumptive patients, which he says does not lose its virulence though reduced to a state of perfect dryness. The question now arises, If consumption is an infective disease, can anything be done to destroy its virulence, or to arrest its ravages to a degree hitherto unattained? This much we may safely assert, that the results of all the experiments we have detailed clearly indicate the need of recognising the parasitic origin of tubercle, of fortifying the body against the inroad, and against all circumstances favourable to the development, of the bacilli, as well as of aiming at the destruction of those already pervading the infected organs. With this in view, we must remember the importance of attending carefully to the improvement of the general health of all consumptives, to the avoidance of close confinement in over-heated and overcrowded rooms, to the keeping the patient as much as possible in the open air in suitable weather, to the careful ventilation of sleeping apartments and sitting-rooms, whilst guarding against preventable draughts, to the separation of the healthy from the sick as far as possible at night, and to warning the healthy against all avoidable inhalation of the breath of consumptive patients, who, in their turn, must be kept from rebreathing their own breath. Serious attention should be bestowed also on the disinfection of the sputa of consumptive persons; and much good may be expected also from the more assiduous use of antiseptic inhalations than has been practised in the past.

Perhaps, in all that has been said we may find a plea for cottage hospitals in open suburban parts, in place of general or large special hospitals for consumptives; and one without doubt for a more careful supervision of the health of cows, whose milk is an article of daily use by the consumptive, and enters so largely into the dietary of all non-consumptives, especially into that of children; as we are told the milk of animals suffering from tubercular disease is capable of transmitting it to previously healthy human beings.

AT the last meeting for the present session of the Court of Common Council of the City of London, the Right Hon. the Lord Mayor in the chair, it was resolved, on the recommendation of the Finance Committee, to distribute two hundred and fifty guineas as follows:—£105 to the British Home for Incurables, £105 to Miss Mary Hardell's Scarlet Fever Convalescent Home, and £52 10s. to the Tower Hamlets Dispensary.

Arris and Gale Lectures

ON THE

RELATION OF EXPERIMENTAL PHYSIOLOGY TO PRACTICAL MEDICINE.

Delivered at the Royal College of Surgeons, June, 1882,

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LECTURE III.—PART II.

THE DEPENDENCE OF THE MODERN RATIONAL METHODS OF TREATMENT UPON A KNOWLEDGE OF PHYSIOLOGY.

I HAVE pointed out that it is rather by shedding a general light on the normal functions of the various organs of the body, than by formulating special modes of treatment, that physiological research will advance medical knowledge. Specific examples of immediate benefit to practice are, however, more striking to lay people than the clearest evidence of the effect of general advance. I shall therefore refer to some instances in which these advantages appear in a more concrete form.

Until within the present century it was the practice of surgeons to cut down on and divide the portio dura of the seventh pair of nerves, at its exit from the parotid gland, in order to cure neuralgia of the face. This operation caused loss of *motion* of one side of the face, without in the least influencing the pain, for this nerve has nothing to do with the transmission of sensory impulses. This useless proceeding was even continued for some time after Sir Charles Bell had shown the real function of this nerve.

This same nerve is often more or less completely deprived of its function by pathological processes of different kinds. The result is the well-known facial paralysis. Its various causes may affect different parts of the nerve,—within the cranium, in the petrous part of the temporal bone, or in the more superficial portion on the side of the face. In each of these situations the prognosis and the treatment should be different, and their differential diagnosis is therefore essential before a rational treatment can be determined. The key to this difficulty lies in what we have learned from vivisection, combined with an exact knowledge of anatomy. There are certain branches that spring from different parts of the nerve whose functions are known to us only as the result of vivisections—e.g., the chorda tympani nerve, which bears secretory impulses from the brain to the submaxillary gland, and the lesser superficial petrosal branch, which carries taste-impulses from the tip of the tongue to the sensorium; these come off from the nerve in its passage through the temporal bone. If, then, a bitter substance applied to the tip of the tongue on the affected side fail to produce a bitter taste, and if weak acetic acid do not produce a flow of saliva from the gland on the affected side, the lesion must implicate the origin of these branchlets, and therefore be deeply seated.

Again, it is to vivisection that we owe the introduction and the perfection of the operation of transfusion as a mode of treatment. By experiments on dogs Lower first demonstrated and made well known to the scientific public, in the seventeenth century, the possibility of replenishing the blood of one animal by that taken from another. I am aware that the claim of priority concerning the operation of transfusion is disputed. Dr. Ogle, in his Harveian Oration, has distinctly shown that the story of the transfusion of the blood of the three boys into the vessels of Pope Innocent VIII. is not to be accepted, the repeated mention of it being merely from hearsay. A description of how the operation might be performed is given by Libavius, the chemist of Halle, but he severely condemns its practice. But whether Libavius did it himself or not, and the former supposition seems very questionable, there can be no doubt that it had been often carried out on the lower animals before it was attempted on man. In more recent times many improvements have been made in the operation by vivisections. For instance, it has been shown that freshly defibrinated blood is as efficacious and as safe as that from which the fibrin has not been removed. Moreover, the danger of using

the blood of dissimilar animals was shown, and surgeons were thus warned against a mode of practice that at one time had proved a great drawback in the adoption of the operation, for it made the result very uncertain. Thus we see that whoever first actually performed the operation, it was by experiment on the lower animals that a method of saving life in cases of severe hæmorrhage was placed in the hands of the surgeon, and by the same means its application has been robbed of its chief dangers, so that by it a large number of human beings have been rescued from bleeding to death. But this wonderful means of saving life is not applicable to cases of dangerous bleeding only. In charcoal suffocation we know—chiefly by experiment—that of the noxious gases evolved by the burning charcoal, one, carbon monoxide (CO), acts differently from the other, carbon dioxide (CO_2). In the former case the gas forms a stable compound with the colouring matter of the blood, not only replacing the oxygen which the hæmoglobin normally carries, but also preventing the future union of that gas with the blood corpuscles. The blood in which the hæmoglobin is combined with carbonic monoxide is of a brilliant scarlet colour, unlike that of carbonic acid poisoning, or of ordinary suffocation, in which case it is dark. In pure carbonic acid poisoning artificial respiration is most useful, and, as a rule, will suffice to restore the reduced hæmoglobin to its natural oxygenated state. In poisoning with carbonic oxide, on the other hand, experiment has taught us that artificial respiration is useless, and that the permanently spoiled hæmoglobin must be got rid of by bleeding, and fresh blood supplied in its place by transfusion. In calculating the value of transfusion it must be remembered that it really is a means of saving life rather than a mode of treatment, for it is only employed as a last resource in otherwise hopeless cases. In fact it brings back to life one practically dead. Yet I find that more than half of the recorded cases in which it has been used have been successful, and the dying patients have been saved from a sudden and certain death. The following table gives the result of 216 cases :—

	No. of cases treated.	No. cured.	Per. cent. cured.
Post-partum hæmorrhage...	108	63	58
General hæmorrhage.....	75	38	50
Intestinal hæmorrhage	18	10	55
Carbonic oxide poisoning ...	15	6	40

I shall not enumerate the many operations—otherwise impossible—which the use of aseptic surgery has enabled the surgeon to perform, although we may in a great measure claim antiseptic remedies as the direct outcome of experiment on living animals. There are, however, several surgical operations which owe their origin or application so directly to experiments on the lower animals, that they must be alluded to, however briefly. The operation for amputation through the hip-joint was performed on dogs, and on its success being reported to the French Academy, it was generally applied in military surgery to the human subject. Of its feasibility as an operation there is now no doubt. The improvements in orthopædic surgery which, though recent, are now regarded as a matter of course, chiefly depend on the physiological investigations which Stromeyer, v. Ammon, Bouvier, Guérin and others carried on in this century. Tenotomy was hazardous and unsatisfactory in the extreme until the subcutaneous method was perfected and the mode of repair of tendons fully investigated upon the lower animals by the authors just named and many others. So much has already been said about Hunter's experiments in relation to the operation for aneurism, that I shall content myself by reminding you that they have a direct bearing on many methods used in modern surgery in general, and that they were not merely useful in leading to one mode of curing aneurism; and further, that, no matter who first tied the artery above an aneurism to accomplish its cure, such a proceeding was only made justifiable by the knowledge of the circulation which was acquired by vivisection.

There are many operations which have been performed on the stomach and the other abdominal viscera which are the outcome of vivisection. So long as thirty years ago Sédillot was tempted by the facility with which Blondlot established gastric fistulæ in dogs, for the purpose of making experiments on digestion, to perform a similar operation on a human being. Having under his care a case of cancer of the œsophagus, in which life was threatened from inanition, he determined to open the stomach. He did so according to the rules of experimental physiology, and possibly prolonged the patient's life, and certainly improved his condition while he lived. Since then Billroth has removed a portion of the stomach for cancer. And Czerny of Heidelberg has removed a cancerous tumour involving the pylorus of a man who seemed to be rapidly sinking from the occlusion of the outlet of the stomach and constant vomiting. In a little more than a month after the operation the man increased nearly a stone in weight, and then returned to his work. More striking still is the case of a healthy young girl, who by accident swallowed some corrosive poison, and recovered from its immediate effects. The œsophagus was so much injured that swallowing was out of the question, and even the introduction of food through a tube was attended with great difficulty. The awful death of slow starvation was the only prospect before this otherwise robust girl. She was operated on in exactly the same way as experience had shown was the safest to establish a gastric fistula in a dog. She now feeds herself, and enjoys life. Here, then, is a simple answer to the statement that "not one benefit has accrued from the labours of the physiologist, either to medical or surgical science?"

Wounds of the intestine have always been regarded with great dread by surgeons. By an experiment on a dog it was shown that by securing the union of the serous surfaces a portion of the intestine could be removed, and the ends of the remaining portion sewn together so that the peritoneal surfaces united. Since the original experiment of Shipton, a young Englishman, similar operations have been frequently performed on animals for the purpose of collecting the intestinal fluids. Upon the same principle wounds of the human intestines have frequently been caused to unite, and, as Mr. Benjamin Travers has shown, by this means much of the horror formerly attached to strangulated hernia has been dispelled.

There is further a surgical instrument which, in special cases, is of great value, the invention and applicability of which was aided by experiments on lower animals. M. Chassaignac was led to imagine on *a priori* grounds learned from surgery, that a torn tissue would not bleed as it would when cut with the knife; but humanity forbad his at once applying his theory to human beings; so he first used the écraseur upon dogs. He says, in describing experiments made on the tongue of these animals: "When the crushing was conducted slowly, the solution of continuity was dry; there was no hæmorrhage, either primary or secondary." I have seen M. Chassaignac in his hospital practice sit with most exemplary patience slowly applying the rules he had thus learned from vivisection to the removal of tumours which the knife could not have reached.

In many cases where disease of a bone or joint used in former days to demand the removal of the limb, the bone or the joint now only is removed, and the rest of the extremity—a sound hand or foot probably—is left to the patient. This change in practice was in a great measure brought about by the knowledge of a fact which was derived from experiments on living animals. In the last century Duhamel clearly proved the mode of growth of bone, and placed beyond a doubt the fact that the periosteum can produce bone; and Michael Troja showed by experiment the more accurate details of the process long before subperiosteal operations were thought of for the alleviation of human suffering. Nearly fifty years ago, Mr. Syme made experiments on animals on the subject of the formation of bone from periosteum, and showed the immediate application of his results to surgical practice. In 1867, M. Ollier of Lyons made a more elaborate work on the subject, which brought the matter prominently forward. Probably there is no point which has contributed more to the advance of "conservative surgery" than this. Whether an elbow be flexible or rigid after its excision, or whether a limb be too short or distorted after the subperiosteal resection of the bone, it is an inestimable gain to retain a living and moving hand instead of a stump-hook.

The fact that a dog can live in the enjoyment of perfect health after one kidney has been removed has often been established in physiological laboratories. This operation has now frequently been performed on the human subject, and repeatedly with success in cases where all other means of prolonging life or making it bearable had failed.

A case occurring in his clinique, in which malignant disease of the larynx threatened a man with immediate and sudden death, Billroth conceived the idea of removing the entire organ. One could hardly do such a terrible operation, even on a dying human being, without some kind of

experience to instruct and guide one. Accordingly, Czerny, who was then his assistant, did the operation successfully on a number of dogs, and thereby gained such knowledge as to enable Billroth to carry out his intention. He operated and the patient recovered, and with an artificial larynx could breathe and even speak in a whisper.

The whole history of our knowledge of inflammation is so interwoven with experiments on living animals that I could not attempt in the short space of an hour to trace out the many and great obligations that pathologists owe to vivisection for elucidating the minute changes in this process. I need only refer to the experiments of Hunter, Thomson, Wharton Jones, Paget, Virchow, Lister, Cohnheim, Stricker, and others, who have made this important topic a special subject of study. Nor will time allow me more than to name the application of experiment on the lower animals to the infectious diseases and the febrile state in general. The results of Koch's work on the infection from wounds and splenic fever, and Pasteur's beautiful researches, not only form strong rocks of defence against the clamorous ignorance of those who prefer mystic to common sense and sentiment to rational modes of treatment, but they also afford great encouragement for the future of experimental research by showing what results may thus be attained.

With regard to remedies suggested, or discovered by vivisection, it must be remembered that experimental therapeutics as a science is in its infancy, and therefore their number is not great. There are, however, some very important drugs which owe their introduction into medicine to experiment on the lower animals. Much has been written and said about the few remarkable cases in which drugs have a different effect on some animals from that which they exercise on man. It must be remembered that these are rare exceptions, and only occur in the case of a few animals, so that by using animals of different species the probable effect of any medicament on man may be determined with sufficient certainty for its efficacy on the human subject to be tried with impunity. It is generally the experimenter himself upon whom this trial is first made. Among the drugs which we certainly owe to experiment on living animals—such experiment as would come under the Act though not really vivisection—is chloral hydrate. From the chemical composition of the substance Liebreich thought that it would have much the same effect as chloroform, and he found by trying it on rabbits and other animals that such was the case. It induces sleep, and in larger doses destroys sensibility. In large doses it affects the heart and lowers the animal heat so as to become dangerous. When used to prevent pain in operations on the lower animals care must be taken to keep the temperature from falling, and this should be remembered in treating cases of poisoning by this drug. We know from vivisection that the alkaloid of deadly nightshade, atropin, checks the secretion of saliva. Often in cases of paralysis, and sometimes in fracture of the skull, dribbling from the mouth is a most distressing symptom; it saturates the pillow and robs the poor patient of much needed rest. A little atropin injected under the skin in the neighbourhood of the gland checks for hours the flow of saliva, and enables the sufferer to enjoy a quiet sleep. But belladonna is a dangerous poison, acting, as vivisection shows, by depressing the heart-nerves; but it has also been demonstrated that a substance which can be extracted from a bean used in Calabar as an ordeal poison, has an antagonistic influence on the nerves of the heart, and acts as an antidote in cases of belladonna poisoning.

We know further from vivisections that a substance called amyl nitrite causes general relaxation of the bloodvessels. It has therefore been used with success in cases of headache arising from spasm of the cerebral vessels, and has been found of more value in that agonising disease called angina pectoris than any other known remedy. The alkaloid of nux vomica, strychnia, was also introduced into practice by experiments on the lower animals, and its remarkably stimulating effects on the spinal cord were made out by Magendie. It is now in common use, and is recognised as a valuable nerve tonic. Strychnia is known to be a terrible poison, but the alkaloid of tobacco, nicotin, has been put forward as its antidote by Professor Haughton, from the experiments which he performed on living animals. For a very long time the occurrence of sugar in the urine has been recognised as the chief symptom of diabetes. The mechanism of its production and the locality where the sugar was formed, were alike unknown until Claude Bernard determined the glycogenic function of the liver. We now know that any disturbance of the vaso-motor mechanisms of that great gland causes an excess of sugar to appear in the blood and be eliminated by the kidneys. This is at least a step towards the pathology of this disease. By vivisections we know further that the production of sugar depends upon the presence of a ferment which changes the normal glycogen into grape sugar. Is there nothing that will check this process and save the economy the great loss of sugar? From experiments by Lemaire we learn that carbolic acid checks fermentative changes. Relying on this and other information acquired by vivisection, carbolic acid has been tried internally in some cases of diabetes, and in a certain number of these cases the sugar has disappeared from the urine.

Although I have enumerated these special instances in which vivisection has directly benefited practical medicine and surgery, I do not wish to lay stress upon them as the strongest evidence in favour of the necessity of experimental research. I must once more insist that the immediate object of physiology is not to invent cures for disease, but to learn the normal operations of the living economy. If we could remove from our thoughts of a case of disease the memory of even one of the great facts which form the basis of our physiological knowledge, which have been derived from vivisection, and if then we attempted to arrive at the diagnosis, prognosis, and treatment of the case in question, we should find that the entire fabric upon which we base our arguments would collapse like a house of cards from which one card from beneath has been roughly withdrawn. In his evidence before the Royal Commission the venerable Professor Wm. Sharpey said: "I think that vivisection is of value as promoting the science of physiology, and that again is one of the great foundations of all rational medicine.....It puts a lamp, so to speak, in the hand of the physician when he is studying disease.....In short, I should say that physiology is not to be compared to a reaping machine, but rather to the plough."

Rational therapeutics must grow out of physiological knowledge, as surely as a plant is the outgrowth of its roots. As the remote rootlets are the exact parts which are all-important for the nutrition of the plant, so experiment feeds physiology and thereby nourishes the art of medical practice. It would appear silly to ask to what rootlet any single fruit or flower on a widely-spreading tree owed its existence or nutrition, and so it is idle to expect that each, or even any, therapeutic agent or method of diagnosis should be traced to the definite experimental discoveries that may have led to its adoption or use. As the branches of our medical tree spread wider and wider and its diagnostic flowers and therapeutic fruits become more and more numerous, we find that its physiological roots go deeper and deeper in search of pabulum, and the experimental rootlets become still further removed from the more obviously useful and prolific part of the plant.

ON THE

ABORTIVE TREATMENT OF GONORRHŒA.

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GONORRHŒA, though not generally regarded as a formidable disease, is in reality from its frequent complications and after consequences a very serious affection. A glance at the more important of these complications and after consequences will illustrate the truth of this statement, for among them we have phimosis, paraphimosis, inflammation of the cellular tissue of the penis and scrotum with abscess formation, or even in rare cases sloughing and possibly perineal fistula, prostatitis, cystitis, nephritis, even peritonitis, orchitis and sterility, bubo, conjunctivitis, sclerotitis, synovitis, and as more remote consequences we may have stricture of the urethra with all its dangers and complications. The full appreciation of these facts leads to the conclusion that gonorrhœa is by no means a trivial complaint, indeed the consideration of them led the late Professor Bumstead to say that gonorrhœa kills more patients

than does syphilis. The very serious character of the disease and the frequency of complications have induced surgeons to make attempts to cut the malady short in its early stages by what have been termed abortive methods.

The usual methods of treatment I need not discuss. They consist in the use of various means to moderate the intensity of the inflammation and to shorten the duration of the inflammatory stage. The chief of these is rest by keeping the patient in bed; the removal of all causes of excitement, as alcoholic drinks, &c.; and free purgation. Rest is given to the part as far as possible by diminishing the irritating state of the urine by the administration of alkalies to render it neutral or slightly alkaline, by the use of diuretics and plenty of mucilaginous drinks, &c., to dilute it, and so on. No local astringent injections are employed till the acute inflammatory stage has subsided; but copaiba may be given before it has quite passed off. When the scalding and other symptoms of acute inflammation have disappeared, injections of various kinds are used. With regard to the length of time required for the treatment of a patient in this way, it may be instructive to quote what Bumstead and Taylor say: "The reader may be interested to know what is the average duration of treatment required in the hands of the best surgeons for the cure of gonorrhœa, laying aside those cases which are seen in the first stage (i.e., before acute inflammatory symptoms have set in), and which are speedily cured by the abortive method. This may be estimated at four to six weeks. Greater success, on the average, is probably not attainable by any means with which we are at present acquainted." The edition from which I quote is the last, and was published in 1879.

The first method employed with the view of cutting short the disease, and, indeed, the only one, as a rule, mentioned in text-books, is the injection of a strong solution of nitrate of silver into the urethra. This was introduced by Debeney, and has since been variously modified, but is now rarely used. Debeney started on the nowadays untenable theory, though one still to be found in some text-books of surgery, of trying to substitute a healthy inflammation for an unhealthy, and then curing the healthy. Debeney's method was to inject into the urethra a solution of nitrate of silver of the strength of sixty-four grains to the ounce of distilled water; and he used his injection in any stage of the disease. The results were generally disastrous. Cullerier says of it: "As soon as the caustic liquid has touched the urethral walls, a horrible pain is experienced, so great as to make the patient cry out, and often to induce syncope; then a very rapid and enormous swelling of the penis occurs, often with profuse hæmorrhage." As a rule, a cast of the patient's urethra comes out in a few days, and, where the effects subside without such complications as abscesses, diffuse inflammations, or the patient's death, the gonorrhœa is rapidly cured. Since the time of Debeney, and of his follower and advocate, Gueterbock, the attempts at abortive treatment have been confined to the stage prior to the appearance of the acute inflammatory symptoms—that stage where the patient first notices a little irritation, or a slight mucous discharge at the orifice of his urethra, and the strength of the injections has been much diminished. Ricord used for a time an injection of sixteen grains of nitrate of silver to the ounce of water; but this also was found to be much too irritating, and was frequently followed by complications, and he therefore abandoned it. Of late those who have employed the abortive method have reduced the strength of the solution, till now it is only one grain of nitrate of silver to the ounce of water. All authors concur in condemning these attempts, unless they are practised before there is any pain in passing water or any well-marked inflammatory symptoms. This is a condition in which patients are seldom seen, and therefore the method has practically fallen into disuse. This method was modified by Johnson, who advocated the reiterated use of weak injections. He says, writing in 1851: "Perhaps the precise kind of injection is not of so much moment as its dilute character, its early employment, and its frequent repetition." He mentions a variety of solutions of the strength of half a grain of the salt to an ounce of water; some, indeed, as nitrate of silver, so dilute as one grain to six ounces of water. At the same time he administered copaiba. The result was very various. In some cases cure was effected in a few days; in others in two or three weeks; in others the inflammation ran its usual course. Johnson, however, only got the favourable results when the patient commenced the treatment a few hours after the beginning of the gonorrhœa. If the inflammatory stage had once set in but little benefit was derived.

Another method was advocated by Cullerier. It consisted in the employment of large doses of balsams, more especially of copaiba, and also large doses of cubebs. He gave six to eight drachms of cubebs and four to six drachms of copaiba in the day. This is used in cases of gonorrhœa seen within eight days after infection; but once the inflammatory symptoms have reached any height he does not advise the method. As he says, in some cases a rapid cure is effected, but there is a great tendency to disorder of the digestive organs, and sometimes inflammation of the urinary organs may supervene. This method is quite unsatisfactory, and has not taken any hold on the profession.

Niemeyer tried to check gonorrhœa by another plan. He did not inject irritants but astringents, with the idea of constricting the vessels and thus rendering the inflammation impossible. He used tannin dissolved in red wine. He says: "I usually order three powders, each of which contains half a drachm of tannin. One of these is dissolved in half a pint of red wine, and the solution used as an injection. If the result is unsatisfactory the other two powders are to be put into the same quantity of wine, and the injection to be continued with this doubly strong solution." This method, like the others, is only of use in the very early stage; but he says that, when employed in time, he has cut short a large number of recent virulent gonorrhœas in two or three days. He also adds, "Even where the disease is not quite recent, but where the inflammation is not very violent, I have often used the tannin, and obtained excellent results although the cure was less rapid." I have only tried this method in one case seen a few hours after its commencement, and the result was fairly satisfactory. Inflammatory symptoms never appeared, but a little discharge remained for about three weeks. This method, which I believe to be the best, has, however, the the same disadvantages as the others—viz., to be successful treatment must be begun very early, at a period, indeed, at which the surgeon seldom sees the patient. And where it is successful one cannot always be certain that the inflammatory symptoms would have become more marked had it not been employed—i.e., one cannot tell that the case was one of true virulent gonorrhœa.

In the *British Medical Journal* for July 24th, 1880, I published an account of a new method which I had introduced for the purpose of arresting gonorrhœa, and it is with the view of giving the results of my attempts to cut short the gonorrhœal inflammation that I publish the present paper. The principle on which I started was, to quote from my former paper, that "the extreme contagiousness of this disease, the existence of a distinct period of incubation, and the steady spread of the inflammation, all point strongly to a parasitic origin." I had found micro-organisms of a particular kind always present in gonorrhœal pus, and they have also been described by other writers, and, reasoning from analogy, I concluded that gonorrhœa was probably due to the growth of an organism in the mucous membrane of the urethra, giving rise to a more or less acute inflammation of its mucous membrane. I will not discuss here the accuracy of my views, for I hope shortly, in conjunction with Mr. Jennings Milles, to publish an account of some investigations which we have been making on the subject.

Granting, however, that these views are incorrect, and that gonorrhœa is due to the continuous growth and spread of something introduced from without, possibly belonging to the group of schizomycetes, it is evident that the destruction of these bodies, or the arrest of their growth, ought to stop the progress of the symptoms, supposing that the agent employed for this purpose is of itself innocuous. This is what I have tried to do, and what, probably, happens in the other methods of abortive treatment when they are successful; for the injections of nitrate of silver and Niemeyer's tannin and alcohol solution are to some extent destructive of plant life; while Johnson's method of frequent irrigation of the urethra washes away the products of growth of these organisms, and possibly many of the organisms themselves. As I pointed out in my former paper, the organisms probably require for their easy spread that the mucous membrane be diminished in vitality. This they do by the products of their growth, which irritate and cause inflammation of the mucous membrane; and when the resisting power of the tissue has been in this way diminished, they grow in it with ease. Now, if these products are constantly washed away, this weakening of the tissue is not so great, and the growth of the organisms

in it occurs only with difficulty. If, however, the organisms have got a good hold of the tissue, very little benefit can be derived; and experience has shown that the method is of little use when the acute symptoms have advanced before it is begun. The mode in which large doses of copaiba act is less evident. We know from Ricord that it does not produce its effect through the blood, but that it is excreted by the kidneys in some altered form, and that it is the urine containing this product of the introduction of copaiba into the system which, passing over the mucous membrane in the urine, brings about the good result. It may be either that it is a parasiticide, or that it has some special effect in arresting the inflammation. I have not yet tested the parasiticide properties of such urine; but in one case, where I kept it for several days, it certainly did not decompose so soon as would have probably been the case had copaiba not been previously administered.

The materials which I employed with the view of destroying the cause of gonorrhœa were chiefly iodoform and eucalyptus oil, and these I still use. As injections are apt not to penetrate sufficiently far, and as their effect is only momentary, I combined these substances with cocoa butter, and made them up in the form of solid rods about 4 in. or 5 in. in length, and about the thickness of a No. 10 catheter. These rods weigh forty grains each, and each contains five grains of iodoform and ten minims of eucalyptus oil. They are dipped into eucalyptus oil, introduced into the urethra, over the orifice of which a pad of boracic lint is applied, and outside this a large piece of gutta-percha tissue, the whole being fastened on by strapping, and retained for four or five hours if possible. The cocoa butter soon melts, and a solution of iodoform in eucalyptus oil bathes the mucous membrane for some hours. Another rod may then be inserted, and a suitable injection employed afterwards. This method is only of use, in my experience, before or during the inflammatory stage, and I employ it at any time till the inflammatory symptoms have disappeared, but generally within the first seven or eight days after the commencement of the discharge.

(To be concluded.)

MITRAL STENOSIS IN THE GOUTY HEART.

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OUR knowledge of valvular affections of the heart does not rest on the detection of a murmur, its seat, the point of its maximum intensity, and its precise time in the cardiac cycle. Nor does their treatment consist in the administration of digitalis and iron promiscuously. Such simplicity may be admirably adapted to the requirements of an examination table, but it is perilously inadequate to the wants of actual practice. For the latter some familiarity with the natural history of each form of valvular disease is eminently desirable, which alone will enable the medical practitioner to read his case aright. There is first the individual to be estimated; then the disease to be measured. Then 2 and 2, or the nearest approach to that numeral in each case, have to be put together; and then 4 is the resultant product. But the equation has points of practical difficulty not represented in the mathematical formula. It is not always easy to determine the precise "2" of each factor. For instance, let me adduce the following case:—

E. A. W——, aged fifty-four, the mother of a family in a south-western county, came to me a little while ago, as her local medical man had found something amiss with her heart. She had been a very active person, but recently had not felt so equal to effort. Yet she had no shortness of breath on exertion, and only a little palpitation on effort at times. She had some dilatation with hypertrophy of the left ventricle, and beyond that a long mitral stenosis-murmur, heard to the right of the left apex; but over a limited area only. There were no indications of regurgitation. Now, what was the significance of this murmur? Was it—(1) The evidence of the contracting or sclerotic endocarditis of Rosenstein? was it (2) the result of an old-standing injury, the outcome of a bypast acute endocarditis? or was it (3) a mere peculiarity; a sound produced at the mitral ostium, which had been, and was, and is, and will be, without any significance whatever? I am not ashamed to confess that the problem is insoluble to me. The symptoms were quite accounted for by her general condition, for she was bilious and somewhat malnourished. Any failure of power in her could be perfectly accounted for without the hypothesis of contraction of the mitral ostium. There was no thrill accompanying the murmur; but such is usual in the contracting endocarditis of middle age and advanced life. There was no irregularity in the heart's rhythm. Nor would the presence of irregularity or a thrill have cast the least ray or glimmer of light upon the case, in my opinion. There was the unmistakable murmur—seat, maximum intensity, period in time; and a long murmur to boot. The minutiæ of mitral stenosis are not recorded in my note-book. There was no possibility of mistake as to the presence of that murmur, which is held to be pathognomonic of stenosis of the mitral ostium. There was the murmur true; but what was the anatomical condition underlying it? That was the essential question to be asked; and, if possible, answered. The murmur in itself was nothing; but its cause was fraught with the most intense interest. With which of the three conditions spoken of above was it causally connected? I summed up the evidence against its being the outcome of a steady progressive diminution of the mitral ostium due to sclerosing endocarditis, and gave a prognosis accordingly. Whether the diagnosis and with it the prognosis was correct or not time alone can tell. The case was certainly one where contracting endocarditis might be present; for its associations were there as regards the general conditions; but the essential features of mitral disease were not sufficiently prominent to establish its presence.

From the negative aspect of a case like this it may be well to go on to describe the positive features of mitral stenosis in elderly persons. Assuming that some of my readers are not thoroughly familiar with the natural history and features of mitral stenosis in all its varieties, it may be well to point out that such mitral stenosis has very different features from the mitral stenosis of young subjects. Perhaps in the dead-house the features are more alike than they are clinically. In the mitral stenosis of the young, set up by acute endocarditis, there is the weak pulse of a small left ventricle; shortness of breath on exertion; enlarged right ventricle; tendency to dropsy in the serous cavities, or the lower limbs. Often there is the "heart-cough," of excess of blood in the pulmonic circulation. There is a murmur, presystolic in time, conveyed to the right of the left apex, often accompanied by a thrill. Such are the leading features. The case may get worse steadily, and even with considerable rapidity; or, as is more commonly the case, the patient is fairly well when quiet, but effort produces distinct shortness of breath, with palpitation. Anything which impairs the strength may elicit some œdema. But though the organism is crippled by the injury done to the mitral valve, the injury itself remains static, and manifests no tendency to go on from bad to worse; or if it does, it is immeasurably slowly. In such a case the administration of digitalis and iron would be likely to be of distinct service.

Now, as to the mitral stenosis of the gouty heart. Here there is a permanent high blood-pressure in the arteries, leading to hypertrophy of the left ventricle, with subsequent hardening of the arteries; the cardio-vascular changes which constitute the first stage of the granular kidney, so ably described by Dr. Mahomed in his recent thesis "Chronic Bright's Disease without Albuminuria." The hypertrophied ventricle contracts with vigour, so overcoming the resistance offered by full arteries to the cardiac systole and forcing the blood into the aorta, which on its recoil closes the aortic valves with a loud sound indicative of forcible closure; and this forcible closure frequently sets up valvulitis, with subsequent mutilation of the aortic valves. This association of aortic disease with the gouty heart is now well recognised. But the powerful contraction of the hypertrophied left ventricle causes also forcible closure of the mitral valves; they have to sustain a strain equal to the force required to overcome the resistance of the full aorta, and this strain tells upon them in time, leading to a slow sclerosing endocarditis. Such valvulitis may give either stenosis or insufficiency of the mitral valve. When the free edges become puckered and contracted, then insufficiency with regurgitation follows; when the valve curtains are soldered together by a slow inflammatory growth extending from the attachments of the valves, then stenosis with obstruction is the result. Now

whatever the form assumed by the valvulitis, the features of the gouty heart will remain to the end; even when all the phenomena of advanced mitral disease are developed and implanted thereon. The aspect is never that of simple primary mitral stenosis; nor does the interest centre round the murmur evoked by the morbid process, but attaches itself rather to the associated general condition of the vascular system.

A certain amount of injury to, and deformity of, the valves has gone on before it is sufficient to produce a murmur. But there may be the rational symptoms of a mitral lesion before the ominous murmur is set up. It may be possible to "suspect" a mitral valvulitis before the tell-tale murmur can be heard; there is, indeed, a pre-murmuric stage in all probability. It is no part of the design of the writer here to discuss this early stage, but to confine himself to the consideration of mitral stenosis—i.e., of a stage so advanced that it carries with it a murmur indicative of the character of the injury done. What are the features of this form of mitral stenosis?

The patient is elderly; has a more or less pronounced senile aspect. The complaint is that the power to undergo exertion is impaired. There is shortness of breath upon effort. There may be nothing more. The pulse may be feeble and rapid, but there is nothing else about it, nothing characteristic. But on auscultating the heart over a very limited area, at or near the right apex, a tiny "whiff" can be caught. Only over a small spot; move the stethoscope ever so little and it is apt to be lost; certainly lost if the stethoscope be distinctly moved. Here the presence of a murmur is significant, and unmistakable enough; at least in the majority of cases. But there is also a strong heart very commonly, and a fairly full artery—i.e., there are the associations of a gouty heart along with the mitral stenosis. Usually the nature of the cause of the murmur is clear and patent, and not a matter for reasonable doubt, as in the case given above. Here is a distinct explanation of the failure of power complained of. Or there may be a more advanced condition attained before the case came under notice, and the patient is confined to bed with or without some positive patch of pulmonary congestion. But there are the significant murmur, the rational features of mitral disease, linked with the cardio-vascular changes of the gouty heart, or granular kidney, as the case may be. The diagnosis bears on the prognosis and the treatment, especially as to the administration digitalis. Here there is not an old-standing limited injury to valves, as static and non-progressive as the scar of a burn; limiting the patient's powers, but possessing no tendency to further advance. There is a contracting or sclerosing valvulitis afoot, which tends to steadily go on from bad to worse, because the mitral valve has to bear the strain put upon it by an hypertrophied left ventricle. It is a progressive form of valvulitis. Certainly; but granting that, at what rate is it progressing? "'*Quien sabe!*' as the Spanish girl said when they asked her who was the father of her child" (Kingsley). One would like to know; but how can one get to know? Only, in the language of Oliver Wendell Holmes, by getting "an arc big enough to determine the size of a circle"—i.e., getting a period of observation long enough to calculate the rate of progress. This may entail personal observation, or may be fairly made out by the history of the case. In one case a definite date can be made out, since which there has been such a falling-off in the patient as reveals pretty plainly the time when the lesion began to tell upon the organism. In another case there will be no data pointing to any special time when the health was obviously impaired. The patient is not very well, feels weak and unequal to exertion, and is scant of breath, and on examination of the chest the murmur of mitral stenosis is audible. Such a case presented itself to me in June, 1880.

A gentleman, aged sixty-seven, who had led an active life, but who latterly had pains which he called "rheumatic," though, he wrote, his "water is more or less high-coloured, and the red sediment is always round the bottom of the pot," which looked like gout—came to me for some "fluttering or palpitation" at the heart. The diagnosis then made was "gouty heart, with mitral stenotic murmur." He was put upon a pill containing some strychnia and digitalis. On this treatment he lost his uncomfortable sensations, and felt very nicely. He went abroad for some time, being conscious of his heart only by some shortness of breath on attempting to climb a hill. A year later he was nicely; his tongue clean, and urine clear; not perceptibly worse. This June he presented himself after an attack of bronchitis, which had pulled him down considerably. The heart was acting irregularly, and the beats were unequal in force. This was due to muscular debility in the heart, the right heart having been severely taxed by the extra demand upon it made by the bronchitis. He had been given carbonate of ammonia, nux vomica, and digitalis by his medical man, according to the formula at p. 367 of the "Practitioner's Handbook of Treatment" (2nd edition), which had suited him well. Indeed, he feels so well that he will not give the heart the rest required for it to recover itself. On his old pill he is doing well, and the muscular tone of the heart is being regained.[1] Even with the recent demand upon the heart there is no evidence that the mitral lesion is perceptibly advancing. In some other cases the inactivity of the valvulitis seems about the same; but in others, again, the progress has been steadily, if not rapidly, downwards. In one case there are violent paroxysms of angina pectoris present.

As to the treatment of these cases, the prevention of the production of uric acid by an appropriate dietary and the use of hepatic stimulants, its solution by antilithic alkalies, are measures about whose adoption there can be no question. To keep the blood-pressure in the arteries as low as possible means lessening the strain on the diseased mitral valves on each ventricular systole; and this is attained by reducing the amount of albuminoid waste in the blood, or dissolving it and so letting it escape by the water emunctories. So far so good. But how about the administration of digitalis? To increase the vigour of the ventricular contractions means increase of the strain on the valves. Certainly; and therefore grave and valid doubts may honestly be entertained about the wisdom of giving digitalis and iron, in a routine manner, in all such cases of mitral valvulitis. When the heart is fairly vigorous, and there are none of the rational symptoms of mitral mischief present, then, probably, it is well to withhold the digitalis and to be content with an appropriate dietary and regimen. But when there are evidences of cardiac failure, then, in all probability, it is well to give the digitalis; albeit in doing so the ventricle does strike harder, and so tax more the mitral valves. Here the ventricle is striking feebly, and the advantage of improving the heart's vigour is not more than counterbalanced by further strain put on the sclerosing valves. In practice each case must be decided by its own indications; and the indications will vary at times in the same case. Nor is it possible to lay down any rules of thumb for the administration of digitalis. The practitioner must weigh carefully the indications for its adoption or the withholding of it in each case. It is not necessary or desirable to give it merely because there is a mitral murmur present; as Rosenstein puts it, "Digitalis helps the heart to pump the blood out of the veins into the arteries," and the fulness of the veins and the comparatively empty state of arteries are the indications for its exhibition; no matter what the murmur, or whether there be a murmur or not. Probably when the rational symptoms of mitral mischief are present it will always relieve them. Whether at times such relief is antagonistic, or prejudicial to the ultimate interests of the case, and therefore it is better to withhold digitalis, is a matter for the exercise of private judgment on the part of the medical adviser. This is certain, the indications for digitalis in such mitral stenosis (or insufficiency, too, for that matter) are not so unmistakable as is the case in mitral valvulitis in the young, where a distinct injury, be the same more or less, has been wrought; but where there is no tendency in the valves to further mutilation, the distorting process being over and done with, the said injury crippling the organism and leading to death from the disturbance so wrought in the circulation, here digitalis can scarcely do any harm; but the same cannot be said of the sclerosing valvulitis of the gouty heart.

[1] Since writing the above he has had some distinct gouty symptoms.

THE family of the late George Henry Lewes have (says the *Athenæum*) presented the philosophical and scientific portion (over 2000 volumes) of his library to Dr. Williams's trustees in order that the books may be available to special students at the library in Grafton-street. The only condition attaching to the generous gift is that the books be arranged on distinct shelves, and that each volume bear some record that it formed a part of the "George Henry Lewes Library."

ON THE

USE OF VENESECTION IN CASES OF HEART DISEASE.[1]

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"IT would be difficult," wrote Dr. Marshall Hall nearly sixty years ago, "to determine whether greater injury has risen in the practice of physic from undue or from inefficient bleeding. To neglect the full use of this most important of our remedies when it is required, or to institute it when it is not so, is equally to endanger the safety of the patient.' When that celebrated teacher and practical physician uttered these weighty words, he could proceed to say: "It sometimes requires no little boldness to abstain from the use of the lancet. Bloodletting is not only the most powerful but the most generally used of all our remedies." How essentially and widely different our teaching and our practice is now need hardly be insisted on. A distinguished practitioner told me the other day that he had never drawn an ounce of blood or even seen a cupping-glass in all his life. A clinical teacher will name twelve drugs as useful in heart disease, but never once, perhaps, suggest a single leech. In fact we seem to shrink from the lancet as if it were an assassin's dagger, and to look upon the bleeding basin and the measuring tube as murderous relics of a bygone and a barbarous age. I verily believe that the whole question of venesection in disease has yet to be settled upon a scientific basis. I only hope to treat it as regards affections of the chest, and at present I would only draw attention to the immense benefit derived from its discriminate use in cases of heart disease. I hope then to be able to show that in venesection, rightly used, we indeed have a "most important," a "most powerful" remedy; and I need hardly add, perhaps, a most neglected and far from a "most generally used" one. It may not be altogether uninstructive to tell how this great truth was forced upon my attention; because, brought up like most men nowadays in the strictest sect of the anti-venesectionists, I frankly confess that I was wont to read accounts of how our fathers were bled semi-annually or oftener, with a sense of quiet satisfaction at our own much greater wisdom.

CASE 1.—Albert L—— was admitted into the London Hospital under the care of Dr. Andrew Clark, when I was acting as his house-physician. He was twenty-three years old and had suffered from rheumatic fever. On admission he was very ill. Stenosis of the mitral orifice and incompetence of the aortic valves with œdema of both lungs were diagnosed. There was very considerable dyspnœa and general œdema, but no marked cyanosis or turgescence of the jugular veins. The urine was very scanty, and despite all our remedial efforts did not increase in quantity. In fact the kidneys seemed "clogged." Digitalis, ether, and senega were given in a mixture three times a day. The bowels and the skin were kept freely acting. He was kept at rest in bed on restricted diet. The lungs certainly at first cleared up somewhat, but at the end of a month his general state was none the better, but rather the worse. Then the urine became scantier, the œdema increased, he became drowsy, and coma seemed supervening. I was going round the ward late at night and was just passing the man thinking to myself "no more to be done there," when it suddenly struck me to get a tracing of his pulse. In adjusting the sphygmograph the patient slightly roused, threw up his other hand and struck his nose heavily. It at once began to bleed. Thinking that in his state it could do him no harm and would probably stop at once, I put a towel under his cheek and went on with my work. Having leisurely taken about half a dozen tracings I removed the instrument and fixed my slides. I was then surprised to observe that the last one or two tracings were wonderfully steadier, more even and regular throughout than the first one or two. Involuntarily I went back to the bed. The towel under the man's cheek was soaked right through with blood. He must have lost at least twelve or fourteen ounces, and the bleeding must have been very rapid while it lasted, for it had now ceased. He lay there looking at me wide awake and perfectly conscious, breathing quietly, with soft, slightly jerking pulse, and calmly said that he had had a good sleep, and felt better for it. Next morning I went in at an early hour to see him. He was sitting up in bed, and complained bitterly of being kept there. He said he had been passing urine all night long. His pulse was still soft, and his breathing quiet, and for him wonderfully easy. In less than a week the œdema was perfectly gone, his pulse was 80, his respiration 24, his appetite was becoming voracious; and he insisted upon returning home, feeling better, he said, than he had done for months. The ridiculous side of the story remains to be told. No one had noticed the bleeding except myself, and I never thought of naming it. I afterwards heard, however, that his rapid recovery was attributed both by himself and his fellow-patients to the mysterious clockwork operation performed on him that midnight by the magical sphygmograph.

Now, I venture to consider that this case is a very important one. Many practical physicians would, and do, say if there is great blueness of the face, or pulsation of the jugular veins, or such like evidence of obstruction to the passage of the blood through the right heart—bleed, to remove part of the excessive forward pressure. But there they stop; and here we had no cyanosis, no jugular distension. We had, however, evident blood stasis in the cerebral and renal organs; and it will not be denied, I think, that the epistaxis saved the patient's life. It is perfectly plain, therefore, that we imperatively need, and must have, some definite scientific principles laid down applicable to all cases of heart disease. In attempting to do this, which I cannot find has ever been done before, I deeply feel my own incompetency to the task, and, indeed, attempt it here not by any means with the hope of settling the question, but rather of raising it as a matter of the most vital interest to every patient with heart disease, and to every practitioner who may have to treat such a case. And first with regard to chronic valvular disease, of which we have naturally two great classes, those with contraction and those with insufficiency of the valves. In both classes we have one common sequence to ward off, the onset of dilatation; and one common danger to guard against, the occurrence of fatty degeneration of the muscular walls. I need hardly point out here that loss of blood is a most common cause of fatty degeneration, and that once this fatal metamorphosis has commenced dilatation rapidly ensues. I may, however, mention that I have observed that fatty degeneration seems to occur, as a rule, much earlier, and to a more extreme degree in cases of incompetency of the valves than in cases of stenosis of their orifices, from which it follows that we must bleed more carefully and less often in cases of valvular incompetency than in cases of stenosis. With regard, now, to the latter class. Common sense would almost seem to dictate the advisability of keeping the blood to be forced through an abnormally small opening abnormally small in quantity. Now, probably, every practitioner of any standing knows how cases of mitral stenosis, for example, may go on in comfort and fairly good health year after year, and yet always seem rather anæmic, and how a single indiscretion in diet, or a trivial attack of bronchitis, will so upset the evenly balanced circulation as to bring the patient in a few hours into grave peril of his life. I am firmly convinced that in such cases venesection is invaluable, and that on the slightest indication that the balance is trembling we shall only and alone do justice to our patient if we remove the cause by removing blood; and it is wonderful how little need be taken to give rapid and often long-continued relief. Therefore, having regard also to our foe, fatty degeneration, I would venture to suggest this clear rule—in cases of stenosis, if necessary, bleed at once; bleed often, if requisite, but take little each time.

CASE 2.—Mary R——, aged fifteen, was admitted into the London Hospital in July, 1879, under the care of Dr. Andrew Clark, suffering from intense dyspnœa and cyanosis. The extremities were cold; there was considerable œdema of the legs. The urine was very scanty. The pulse was scarcely perceptible, though the heart's action was powerful. There was a presystolic thrill and murmur audible at the apex, and a systolic bruit at the base.

On July 10th, in addition to the above symptoms, she became very drowsy and hard to rouse, and it seemed probable that coma would supervene. She was bled from the right arm to the amount of four ounces and a half, when she roused herself and declared she felt much better. The breathing certainly was easier, and the lips became less blue, and the pulse softer and distinctly fuller. On the following

[1] Read before the Hunterian Society, March, 1882.

day, however, dyspnœa came on again, and she was bled from the left arm to three ounces, when she expressed herself as feeling much relieved. A rapid increase in the daily quantity of urine at once began, and the œdema quickly diminished. She, however, felt so well that, against orders, she got out of bed, walked about the ward in an undressed state, and caught cold. Acute bronchitis set in, and the dyspnœa returned. On the 19th she was accordingly bled from the right arm to three ounces, with great relief to the breathing. The bronchial trouble rapidly cleared up, and she declared that she felt better than she had done for months. I was now invalided myself, and she passed into the charge of a very able locum tenens. He, however, did not believe in venesection, and when on the 29th, after fresh exposure and a fresh cold, she sank into the same state as described on July 10th, she was not bled. She became comatose, and died the same evening.

The post-mortem revealed the accuracy of the diagnosis—a very extreme degree of mitral and aortic stenosis being found. As on every occasion when blood was removed, the patient was in urgent danger, and as each time only a small quantity was taken, and yet nevertheless each time with great relief, the whole case, I think, amply supports the practical lesson that I above pointed out. Latterly, I have only used leeches or cupping to remove blood directly from the cardiac region in cases where stenosis existed. I imagine that we obtain thereby more certain and more rapid results with a more accurate loss of blood than when venesection from the arm is resorted to. Still this is a matter of such great practical importance to the patient's welfare, and to our own success, that I feel bound to state distinctly some reasons for my judgment:—1. The patient, and the patient's friends, usually object less when leeching or cupping is suggested, than when "bleeding" is proposed, and they are less alarmed at a local application to the seat of disease than at the procedure necessary to open a vein and keep it bleeding. 2. The quantity of blood to be abstracted can be more accurately measured and controlled, and is generally much more easily obtained in cases of advanced stenosis by local than by brachial venesection. 3. Even as, like all practical men, I give a hypodermic injection of morphia at the seat of pain, although I cannot explain why its insertion there should give so much greater and more rapid relief than when introduced into the same blood at a distance, so I cannot explain why a little blood removed from the cardiac region should afford greater and quicker relief than is derived by the abstraction of even a somewhat larger quantity from the arm. I do the former and leave the latter undone in these cases, because I am convinced of the great practical truth that thereby greater good is gained.

CASE 3.—William H——, aged fifteen, was admitted into the London Hospital, in 1880, suffering from contracted mitral and aortic orifices, dilated left ventricle, and bronchitis. A mixture, containing digitalis, ether, squills, and senega, was given. Absolute rest in bed and restricted fluid diet was ordered. He improved somewhat, but very slowly; but at the beginning of March he began to suffer from increasing dyspnœa, and became rather cyanosed. On March 4th his breathing was rapid; he was drowsy and hard to rouse; his pulse was scarcely perceptible; while his heart's action was laboured, heaving, and irregular; his face and hands were covered with a cold sweat; his breath was cool; he seemed moribund. I put a number of leeches on the cardiac region, and they were very freely fomented. When they had bled to about six ounces, he roused himself a little and said that the pain at his heart was almost gone. In an hour or two his pulse was 80, weak still, but decidedly fuller than it had been for days past. I now increased the dose of the infusion of digitalis from three to four fluid drachms thrice a day. And I may here say how often I have been astonished to find how drugs which had been given for days or weeks without apparent benefit, as soon as even a little blood has been removed, seem at once to assert their power again. The patient now rapidly improved. In a week he was out of bed; and on March 23rd he was discharged, feeling better, he said, than he had done for months past. I might easily multiply cases, but I think these amply illustrate the principle I desire to enforce.

With regard now to incompetency of the valves. Here we have, I believe, a more dangerous form of disease. For I am convinced that we have in such cases a greater tendency to the early occurrence of dilatation, and, therefore, of sudden death. And so it appears to me that we should only bleed in such cases when there is urgent dyspnœa, or other evidence of danger. Further, that then we should bleed boldly from the arm till that danger is removed, and for fear of inducing a state of fatty degeneration of the already weakened muscular walls, that, if possible, the bleeding should not be repeated. For in this class of cases we do not want to keep up a permanent effect—that is to say, a constant restriction of the quantity of blood in the body; but we have to counteract, and suddenly may be, an imminent peril. That venesection, however judiciously used, is most beneficial in these cases is amply evidenced by such as the following:—

CASE 4.—Thomas C—— was admitted into the London Hospital on May 21st, 1867, under the care of Dr. Ramskill. On entering the hospital he was found to be suffering from aortic regurgitation, emphysema, and acute bronchitis. His urine was albuminous. At 3 P.M. on the day of admission his face and neck were livid; his eyeballs projected, and his lips were bloated looking. The veins of his neck were very much distended. His skin was perspiring and felt cold. His pulse was small, irregular, and quick. Respiration forty a minute, and his breathing was so laboured and quick that he could hardly speak. At midnight on the day of admission he was much worse; his face was livid, his breathing gasping. His face was covered with cold sweat, and his pulse could hardly be felt. He was bled to sixteen ounces, and at once he expressed himself as feeling relieved. His breathing in the course of an hour became much freer, and he was able to sleep a little. Next day he looked much better, he appeared altogether a different man. His pulse was still very irregular and quick, but his respiration was slower. He continued to improve and left the hospital very much relieved. He returned in two months in much the same state as before. He was bled to fifteen ounces, with considerable temporary relief, but died suddenly five days afterwards.

CASE 5.—"A costermonger,[1] aged sixty-two, was admitted, under the care of Dr. Herbert Davies, suffering from tricuspid incompetency and dilated right heart. He was extremely livid in the face; it might fairly be said to be of a purple colour. The superficial veins were dilated. The dyspnœa was so great that he could not lie down. He sat on the edge of the bed, nodding, in a kind of stupor, the whole day long. Expectorant medicines were tried without any relief, and the dyspnœa increasing every day he was bled to 14 oz. He expressed himself as much relieved, and there was a marked decrease in the lividity. The dyspnœa was much relieved. He felt so much better that he insisted upon being discharged from the hospital. After being out a few weeks he returned in much the same state as at first. He was again bled from the arm, and greatly benefited, and he left the hospital. After about two months he was again admitted, under the care of Dr. Andrew Clark, in even a worse condition than before. He was bled again, but without relief, and he died very soon after."

In each of these cases the post-mortem revealed considerable ventricular dilatation. Besides the above, Dr. Sutton quotes other illustrative cases, and Dr. Dickinson has recorded one in the Pathological Society's Transactions. I would, however, while fully recognising the great benefit obtained in the above cases, point out that a sudden death in each followed rapidly on a venesection. In private practice the chances would be that in such a case the fatal result would be laid on the doctor's shoulders; and therefore, for a double reason—for the practitioner's as well as for the patient's welfare,—the rule above suggested should be kept in mind till a better one is laid down for venesection in cases of valvular incompetency.

Next, with regard to acute pericarditis and endocarditis. I have not had the opportunity of using venesection in many such cases, but where I have done so I have invariably bled by cupping the cardiac region, and always with good result—so successfully, indeed, as to make me believe that if this measure be taken at the onset of the disease it will very often if not always cut the attack short, or at least greatly mitigate its severity.

CASE 6.—Thomas H——, aged twenty-eight, was admitted under the care of Dr. Clark, suffering from dyspnœa and a slight grasping pain over the cardiac region. The heart's action was rapid and excited, and there was a rough, rubbing friction sound audible over the whole cardiac area. He was cupped at once to eight ounces, and expressed himself

[1] Medical Times and Gazette, Dec. 18th, 1869, p. 707.

greatly relieved. The next morning the heart's action was quiet and regular, the rubbing sound had completely disappeared, and no evidence of effusion having occurred ever showed itself.

Finally, with regard to that troublesome symptom in heart cases—pain more or less severe, more or less persistent in the cardiac region—I have found nothing give such complete and rapid relief as the local abstraction of blood. Whether the symptom arises from local hyperæmia or not I do not profess to know, but of the great practical value of the remedy here I am firmly convinced.

CASE 7.—A young gentleman was brought to me a few weeks ago. He had been seen by several eminent specialists, and was, as I afterwards found out, under the care of a justly distinguished practitioner. He had old mitral valve disease, but for some weeks past had suffered from extreme aching and often agonising pain localised to the cardiac area. I could detect no sign of pericarditis. The temperature was only 99° F. There was no tenderness on pressure, no herpes; in fact, there was nothing to account for the pain. His parents and friends were much depressed because blisters and poultices, ether spray and galvanism, and a host of other remedies and drugs had been tried, but without the slightest alleviation of the pain. I prescribed a mixture containing belladonna and digitalis, and recommended that he should be cupped to seven ounces over the cardiac area. I have since heard that this was done with complete and immediate, and till now permanent, relief from pain.

To summarise, then, I would conclude that:

1. In cases of valvular stenosis, if dyspnœa or pain or urgent symptoms be present, bleeding is generally useful; that it appears to be better to bleed often if necessary, but to take only a small quantity each time, and this by means of leeches or the cupping glass direct from the cardiac region.

2. In cases of valvular incompetency, if urgent dyspnœa or cyanosis or stupor be present, it appears best to bleed freely from the arm to about sixteen or twenty ounces if necessary, and if possible once for all.

3. In cases of acute pericarditis and endocarditis the attack may possibly be cut short by freely cupping the cardiac region at once.

4. In cases of cardialgia, without any evident cause, leeching or cupping over the heart's area will probably give relief.

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THE TREATMENT OF ACUTE CHOREA BY "MASSAGE" AND THE FREE ADMINISTRATION OF NOURISHMENT.

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THE treatment of chorea has never been uniformly successful or flattering to the skill of the physician. When examined from the standpoint of the non-professional mind, there is not often any obvious relation between the drugs swallowed and the lessened muscular movements; and chorea drags its slow course along, disheartening alike the doctor and the parents of his patient. In all probability, what chorea has proved in the past with respect to treatment, so in many cases it will prove in the future. It is not a disease to which speedy cure is applicable or possible. It may almost always be improved, and considerably so by many forms of treatment. Still none are so satisfactory but what others may prove useful in properly selected cases, and thus it is that one is always willing to try anything new.

The object of this paper being purely a clinical one, the interesting question of the nature of chorea must be passed by; for present purposes we shall content ourselves by saying that it is a nervous habit, which, by neglect and nerve exhaustion combined, becomes aggravated into an acute disease. Thus thinking, Weir Mitchell's plan of treating the nervous exhaustion of women as detailed of late by him and by Dr. Playfair seemed one that might possibly be productive of good results, and it has accordingly been carried out, perhaps not always quite strictly, in two cases that have been admitted into Guy's Hospital for that purpose, and in a series of ten cases at the Evelina Hospital. The Evelina Hospital cases constitute in fact the total of Dr. Goodhart's cases there during the past nine months, with the exception of three which suffered from heart disease and fever, of such severity that they speedily proved fatal—for such as these the treatment is not applicable—and four or five which were not of such severity as to afford a fair test of the treatment. Weir Mitchell's treatment, it will be remembered, in the case of women, is one of absolute rest, so far as voluntary movement is concerned; of the supply of nourishment in large quantity; and of the exercise of the skin and muscles, by what is now called "massage," but which let us call, as of yore, shampooing. It can hardly be called new as regards chorea, so far as the individual factors of it are concerned; perhaps there is more of novelty in the combination of these and in the aim which suggests it. Choreic children are the subjects of a faulty habit; are badly educated so far as their nervous system is concerned. Once choreic is to be always so, more or less, and it is education—practice, that is, in the art of muscular control—which such children require throughout life. But acute chorea is a bad habit and much more, and education under the circumstances of violent chorea is not only useless but harmful. The more a child is incited to voluntary muscular movements the more it moves choreically, and by so much tends to perpetuate the aggravation of its habit, and, as is well known, simple rest in bed will often much ameliorate the violence of the choreic movement. But to passive movement there are few objections, and for it may be claimed some very distinct advantages:—1. If carefully performed the muscles, flabby and poor in these children, become plump and healthy. 2. The various groups being manipulated in an orderly manner, some influence will probably be exerted towards restoring more equable nerve discharges from the centres which control them, and displacing a disorderly habit by an orderly one. 3. The supplies are utilised to their utmost without call upon the diminished capital of brain power.

Each case has been kept at rest in bed without other treatment of any kind for the first two days, in order that the amount of erratic movement under such conditions might be observed. Then shampooing has been commenced and feeding has been pushed in gradually increasing quantity, with the hope that a more healthy brain might be built up on the one hand and more regular habit induced on the other.

No one who knows anything of chorea will suppose that the success has been in all cases convincing, but some advantages may certainly be claimed for the treatment, and we think it is one which deserves a trial. The chief of these are:—1. A decided increase in weight. 2. Rapid subsidence of all the more violent movements, and it has happened that after two or three days' treatment a child quite uncontrollable has been able to sit up in bed, in a fairly quiet mind. 3. The extremities are no longer cold, and as a further evidence of the good influence on the circulation, the pulse falls and becomes more regular. 4. Shampooing is a powerful sleep producer; children as a rule sleep soundly after being shampooed. It might have been supposed that the patient would be frightened and dislike the treatment, but this has never been the case, nor has there at any time been any dyspeptic disturbance to indicate that the digestive organs have been over-taxed by the excess of work they have been called upon to perform. We make no statement with reference to the actual duration of the cases, because this is a treatment for chorea in the active stage; and when it has been successful there is still a range of lesser movement which must be covered by subsequent careful education, which must always make a prudent man chary in his use of the word "cure," and it will be better on this head to let each case speak for itself. For the rest, to Dr. Phillips belongs all the credit of carrying out the suggested treatment, and of reporting the cases in the most careful and elaborate manner, as will be seen from what follows.

We purpose to give a full report of one case, showing the course of treatment pursued, and the diet-tables used, and then to give an abstract of the remaining cases in order. On admission the patient is put into a padded bed. Milk

only is given for three days; during this time the movements are carefully watched, grasping and articulating power noted, and bowels regulated. If the movements show no sign of abatement, massage is begun twice daily for fifteen minutes for the first seven days, and for twenty minutes afterwards. The diet-table for the first and second weeks is given below. The temperature and pulse are taken immediately before and after massage. The patient is weighed every week.

CASE 1.—Alice O——, aged ten years, was admitted on Feb. 18th, 1882; second attack; history of acute rheumatism on maternal side; first attack very slight, but lasting nine months; supposed cause a dog flying at her. The present attack began more than twelve weeks ago; twitchings have been getting rapidly worse; loss of articulation occurred six weeks ago; the patient has had night terrors during the last seven days; she has been in bed during the last month, but seems to get worse; during the last six weeks has been treated with digitalis and iron. Condition on admission: She cannot walk; throws herself about in bed; tongue bitten; no grasping power; cannot articulate; bursts into a paroxysm of shouting and crying if looked at; cannot swallow, the food dribbling out of her mouth. There was a presystolic and systolic murmur at apex. On Feb. 19th and 20th she was quite uncontrollable; took no food; knuckles abraded; sacrum and other prominences reddened; no sleep at nights; anxious expression; considerable pain in head. Massage began on Feb. 21st; weight 3 st. 10 lb. 10 oz.

Diet: At 5.30 A.M. half a pint of warm milk; 7 A.M., half a pint of milk and three slices of bread-and-butter (each slice to weigh 1 oz.); 9.45 A.M., half an ounce of Kepler's malt extract in lemonade; 10 A.M., massage (fifteen minutes), followed by half a pint of warm milk flavoured with cinnamon-water; 12.30 P.M., rice pudding, half a pint of milk, green food and potatoes; 4.15 P.M., half a pint of warm milk, three slices of bread-and-butter, and one egg (half boiled); 7 P.M., half an ounce of Kepler's malt extract in lemonade; 7.30 P.M., massage for second time, followed by half a pint of milk immediately.

		Morning. Pulse.	Morning. Temp.	Evening. Pulse.	Evening. Temp.
Feb. 21st[1]	Before massage	120	99·2°	104	99·2°
	After ,,	118	97·0°	100	96·8°
,, 22nd[2]	Before massage	108	98·8°	112	97·2°
	After ,,	120	97·8°	100	97·4°
		Quite quiet for 3 hours, but no sleep.		Four hours sleep, fol. by 2 more.	
,, 23rd[3]	Before massage	112	98·8°	112	97·2°
	After ,,	100	97·2°	114	96·6°
				Slept well all night.	
,, 24th[4]	Before massage	100	98·8°	104	97·6°
	After ,,	96	96·8°	96	95·8°
		Slept 1 hour after massage.		Slept immediately after; no night terrors.	
,, 25th[5]	Before massage	96	97·4°	96	97·2°
	After ,,	88	96·0°	88	96·2°
,, 26th	Before massage	92	97·2°	100	97·2°
	After ,,	88	97·0°	96	97·0°
,, 27th[6]	Before massage	96	96·0°	86	98·2°
	After ,,	92	98·0°	90	97·0°
		Quite quiet for 2 hours.		Slept well all night.	
,, 28th[7]	Before massage	72	97·0°	80	96·0°
	After ,,	68	95·8°	72	95·6°

[1] Much quieter after morning massage, and slept well for six hours during the night.

[2] Was spoken to and handled without any emotion; has complained of no pain; does not object to massage in the least.

[3] Movements are already diminished; she can take milk with much less "slobbering"; articulation better.

[4] Tongue protruded much more regularly; tongue has not been bitten; no night terror.

[5] "Systolic" murmur very slight, and presystolic has disappeared; can articulate the word "Better" when spoken to.

[6] Systolic bruit has quite disappeared; can to-day articulate her name; takes all her food well; tongue protruded straight; grasping power weak.

[7] Weight 3st. 11lb. 12oz.

		Morning. Pulse.	Morning. Temp.	Evening. Pulse.	Evening. Temp.
March 1st	Before massage	72	97·8°	80	97·0°
	After ,,	68	97·2°	72	97·0°
,, 2nd[8]	Before massage	120	100·8°	128	101·0°
	After ,,	118	100·0°	120	100·8°
,, 6th[9]	Before massage	96	97·2°	84	97·0°
	After ,,	92	97·0°	80	96·6°
				Slept well.	
,, 7th	Before massage	80	97·8°	96	97·8°
	After ,,	72	98·0°	92	98·0°
		Slept 2 hours immediately after.			
,, 8th[10]	Before massage	80	98·0°	96	98·6°
	After ,,	76	97·6°	88	98·2°
,, 9th[11]	Before massage	80	98·8°	104	99·8°
	After ,,	76	98·0°	100	98·8°
,, 10th[12]	Before massage	96	99·0°	104	99·2°
	After ,,	92	98·0°	96	98·2°
,, 11th[13]	Before massage	80	99·2°	90	98·8°
	After ,,	76	98·2°	88	98·0°
,, 12th[14]	Before massage	80	99·2°	80	98·0°
	After ,,	76	98·0°	74	98·0°
,, 13th[15]	Before massage	76	99·0°	80	98·0°
	After ,,	70	98·0°	76	97·0°

All active movements have ceased, and she has now nothing but the occasional twitching usual in these cases. Massage was kept on for fourteen days longer, in the hope that these too might disappear, but although they were materially lessened, and entirely ceased in three weeks, the diminution was scarcely marked enough to say that it was caused by the treatment.

CASE 2.—Eliza G——, aged nine years. Third attack. Strong history of acute rheumatism on paternal side; no cause. Condition on admission: Tumbles down; great headache; night terrors. Pains in her limbs; muscles flabby; skin rough and dry; loud systolic murmur at apex. Weight 3 st. 6 lb. 6 oz. After eight days' massage all violent movements ceased; headache and night terrors disappeared; skin supple and moist. Weight 3 st. 7 lb. The massage was continued, as in Case 1, and certainly with better results.

CASE 3.—George S——, aged seven years. First attack. Acute rheumatism on maternal side; strong history of epilepsy in father; no cause. Condition on admission: General movements; strabismus. Cannot feed himself; continually grinding teeth. Night terrors. Slight systolic brush at apex. Weight 3 st. 3 lb. 4 oz. After ten days' massage movements scarcely perceptible. Night terrors ceased. Weight 3 st. 4 lb. After twenty-one days' massage movements had entirely ceased. Weight 3 st. 4 lb. 10 oz.

CASE 4.—Maude G——, aged seven years. First attack began four months ago, after having her ears boxed; since then she has become mischievous and spiteful; movements sometimes very severe, at others slight. Condition on admission: General chorea; cannot stand. Heart sounds normal. Cannot hold anything; milk dribbles out of her mouth. Weight 3 st. 10 lb. After seven days' massage all severe movements ceased. Food taken well; holds her own spoon. Weight 3 st. 10 lb. 5 oz. Continued massage had scarcely any effect on minor movements, which gradually ceased in twenty-one days.

CASE 5.—Henry C——, aged seven years. First attack. No rheumatic history, but epilepsy in a sister who died in a

[8] Last night some Kepler's malt extract was given which had been open for some time; this caused an epidemic of diarrhœa in those patients taking it. A mixture of opium and bismuth was given, and massage was stopped for three days.

[9] The systolic murmur has returned. In consequence of this illness she lost 1lb. 3oz. (3st. 10lb. 9oz.)

[10] Diet as before, except at 7 A.M. half a pint of warm milk and four slices of bread-and-butter; 12.30 P.M., chop (meat cut from bone, no fat), rice pudding, &c.; 4.15 P.M., half a pint of warm milk and four slices of bread-and-butter, another pint of milk distributed over the twenty-four hours.

[11] All difficulty in swallowing has disappeared; systolic bruit scarcely audible; movements much less.

[12] Fed herself twice yesterday; can articulate ordinary sentences.

[13] Takes all her food well; sits up in bed; is able to hold a spoon.

[14] Muscles have become so resistant, from increase of their volume and tone, that massage is very difficult; sleeps well all night and an hour or so after morning massage.

[15] Weight 3st. 12lb. 10oz., an increase of 2lb. in seven days.

fit. The patient seems *non compos mentis*. Cause overstudy. Movements began three weeks ago. Condition on admission: Cannot stand; movements very violent; attempts to bite anyone going near him. Cannot feed himself. Heart sounds normal. Weight, 3 st. 2 oz. He became uncontrollable during the first three days, but at the end of the first massage he slept one hour and improved rapidly. Fourteen days after massage was begun his weight was 3 st. 2 lb. 2 oz. Took food well; movements scarcely perceptible. No further improvement was obtained by seven days' additional massage.

CASE 6.—Elizabeth S——, aged nine years. Strong history of rheumatism on the maternal side, and of epilepsy in the father. Brother died of tubercular peritonitis. Has been in bed for the past three weeks; no cause. Condition on admission: Dyspnœa on exertion; good deal of frontal headache; facial muscles in continual motion. Cannot stand. Heart sounds normal. Weight 3 st. 7 lb. 12 oz. After twelve days' massage her weight was 3 st. 10 lb. 2 oz. All headache and facial movement disappeared. General movements very slight. Entirely cured after twenty-one days' massage.

CASE 7.—Annie H——, age seven years. Cause a fright; duration of illness two months. No family history of importance. Condition on admission: Stumbles, but does not fall. Bites her tongue. Frontal headache. Night terrors. Dyspnœa on exertion. Distinct purring bruit at apex, and reduplicated second sound. Grasping power *nil*. Weight 3 st. 4 lb. 6 oz. After fourteen days' massage weight 3st. 6 lb. 8 oz.; no night terrors; takes food well. Heart sounds *in statu quo*. No further effect could be produced, and this was one of our decided failures.

CASE 8.—William T——, aged four years. Acute rheumatism on mother's side, with cardiac disease. No cause. Duration of illness five days, the movements coming on suddenly. Condition on admission: Cries passionately if touched; tumbles if allowed to stand; cannot articulate, but makes a noise of a nasal character; cannot feed himself or hold anything; passes everything unconsciously; movements were so great that it was impossible to take his temperature. Weight 2 st. 5 lb. Heart sounds: Slight post-systolic brush at apex. After seven days' massage he could feed himself; articulated indistinctly; tongue protruded straight; post-systolic brush has disappeared; motions and urine passed consciously; movements very slight. Weight 2 st. 5 lb. 8 oz. Fourteen days' further massage increased his weight to 2 st. 6 lb. 12 oz., and improved his articulation, but no other improvement was noticed.

CASE 9.—Florence G——, aged nine years. One sister had chorea; duration of illness three months. No history of rheumatism; cause a fright; has been in bed during the last three weeks. Condition on admission: Cannot stand; movements very violent; crying with headache; heart sounds normal. Weight 3 st. 8 lb. 12 oz. After seven days' massage movement had almost ceased; headache gone. Weight 3 st. 9 lb. 12 oz. After fourteen days' massage was allowed to get up. Weight 3 st. 11 lb. No return of movements brought on by getting up.

CASE 10.—Harry C——, aged nine years. Family history unimportant. Illness began three weeks ago with pains in ankles; two days ago lost all power of articulation; no sleep at nights. Condition on admission: Tumbles down if placed on his feet; grasping power *nil;* cannot hold a spoon. Headache severe; large callous patches on knuckles of fingers; right arm almost useless. Weight 3 st. 6 lb. 4 oz. After fourteen days' massage all headache had disappeared; movements quite ceased; has some grasping power in right arm. Weight 3 st. 9 lb. 4 oz. After nineteen days' massage he was allowed to get up, with no return of his movements.

CASES 11 and 12 were treated at Guy's Hospital. The one was a young woman and the other a girl of nine or ten, and in both the results were similar to those noted in the foregoing, chiefly the quieting of the more violent movements and the tendency to sleep induced by the massage.

The amount of urea excreted was tested daily, but no increase or decrease could be found to correspond with the increased nitrogenous waste.

From the above cases it will be seen that in four of them (1, 3, 5, 8) the treatment had a most marked result, and we believe it was influential in saving the child's life. In all the treatment produced some good effects, general or other, and in several even upon the chronic movements, except, perhaps, in Case 7.

We must in conclusion once more insist on the fact that the treatment we advocate is for the acute stage of chorea, not the chronic, although (as will be seen from perusal of the above) much benefit may indeed be derived from it, even in these latter cases. "Massage" and the mode of performing it is well described in Weir Mitchell's book, "Fleah and Blood, and how to make them." There are two or three essential points, however, to bear in mind: 1. Fifteen minutes twice a day, increased at the end of seven days to twenty minutes, is as much as the strongest child will bear. 2. After the operation the warm milk should be given and the bed-curtains closed, and all noise stopped, sleep then generally follows. 3. Neat's-foot oil, if used alone, often produces small boils, which cause the patient a good deal of discomfort. A mixture of an equal amount of olive oil will be found to obviate this trouble. 4. Care should be taken to give the Kepler's malt extract *fresh*. If any fermentation has taken place troublesome diarrhœa will probably result.

AN EASY METHOD OF DETECTING BACILLUS TUBERCULOSUS FOR DIAGNOSTIC PURPOSES.

BY HENEAGE GIBBES, M.D.,
CURATOR OF THE MUSEUM, KING'S COLLEGE, LONDON.

SINCE the publication of Koch's discovery of an organism in phthisis and his method of demonstrating it, many experiments have been made and, as far as I know, have failed to show it by his method. In my own case I have never been able to see it in sputum or tuberculous tissue when stained on this plan. Dr. Ehrlich's method threw more light on the subject, but his process is in many cases unsatisfactory. He, however, gave the clue to what was wanted in Koch's process. The anilin colours used will not stain the tubercle bacillus without the addition of another base in the shape of pure anilin, and the manner in which Dr. Ehrlich does this is open to objection and may account for his process not always succeeding. Pure anilin is sparingly soluble in water, and the amount taken up by the water will vary very much when his method is used.

The following process is one which will bring out the bacillus with ease and certainty, and in my hands has never failed. The colours used are magenta crystals and chrysoidin; the latter is a brown, which does not stain the ground substance so intensely as vesuvin. They can be procured from the Badesche Anilin Fabrik, 22, Bush-lane, Cannon-street, E.C. The following are the formulæ I have used: Two grammes of magenta crystals, three grammes of pure anilin, twenty cubic centimetres of alcohol, specific gravity 830, twenty cubic centimetres of distilled water. Dissolve the anilin in the spirit and then rub up the colour with it in a glass mortar, adding the spirit gradually until it is all dissolved, then add the water slowly, while stirring, and keep in a stoppered bottle. Make a saturated solution of chrysoidin in distilled water and add a crystal of thymol to make it keep; a dilute solution of nitric acid (Coml) is made, one part of acid to two of distilled water. For sputum the following process is the most simple. Spread a thin layer on a cover glass and let it dry, when quite dry pass it two or three times through the flame of a small Bunsen burner and let it cool. Filter two or three drops of magenta solution in a watch glass, place the cover glass with the sputum downwards on the stain, taking care there are no air bubbles under it. Let it remain for fifteen or twenty minutes, then wash in the dilute acid until all colour has disappeared, remove the acid with distilled water, when a faint colour will return; then place the cover glass in the same manner as before on a few drops of chrysoidin filtered into the bottom of a watch glass, and let it remain a few minutes until it has taken on the brown stain; wash off the superfluous colour in distilled water and place the cover glass in absolute alcohol for a few minutes, remove and dry perfectly in the air, place a drop of Canada balsam solution on the cover glass and mount. It is better to use small glass funnels for filtering the stains, as they protect the fingers. Sections of hardened tissue are treated in the same manner with the necessary modifications. With regard to the powers required to examine these bacilli after they have been mounted by this process an ordinary ⅛ inch with daylight

will show them perfectly, and a ⅛ dry glass will show that they are rows of spherical bodies with the same illumination. Their diagnostic value of course remains to be settled; I can only say that in a number of my own cases and some sent me, where there has been undisputed evidence of phthisis, there I have found the bacilli. In others where the signs have been suspicious, but not positive, some have given the organism, others have not. The progress of these last cases will be closely watched. In a number of cases of chronic bronchitis and emphysema and other chronic diseases of the respiratory organs, I have entirely failed to find the bacillus. In every case where the sputum has shown the tubercle bacillus, other slides have been prepared and stained, to show the putrefactive bacilli, which exist in large numbers and in several varieties in the same sputum, but none of these are stained by the magenta process. I have also made a series of experiments to see whether the bacilli increased in the sputum by keeping, and after taking the mean of a number of given areas from the first to the tenth day of the same sputum, I find no increase of the tubercle bacilli; but on staining duplicates to bring out the putrefactive bacilli, I find them enormously increased, and still they are not stained by the magenta process.

LATENT PLEURITIC EFFUSION; ASPIRATION; RAPID RECOVERY.

BY FREDERICK S. PALMER, M.D., M.R.C.S.

R. G. M——, aged eighteen years, a watchmaker's assistant, came to my house on the evening of Friday, Feb. 17th, 1882. Upon his arrival he appeared much exhausted, very anæmic, and I noticed that his breathing was extremely short.

The patient gave the following account of himself. On Saturday, Feb. 4th (thirteen days previously), he played in a football match, when, in addition to rather rough treatment, he experienced a chill from wet feet. Next day he was stiff and sore, felt alternately hot and cold, had a short dry cough, and complained of pain under the left breast. On the following day he was better, the pain and cough disappeared, and he resumed his employment. Since then his breathing had become gradually shorter, and his weakness increasing with the dyspnœa obliged him to give up his work on the day he applied to me for assistance.

Upon examination of his chest, I discovered well-marked signs of effusion into the left side. The notes recorded in my diary at the time are: Absolute dulness anteriorly in the left infra-mammary region, and in the infra-scapular and lower part of the inter-scapular regions posteriorly, together with entire absence of respiration, voice sounds, and vocal fremitus; slight bulging of intercostal spaces; movements of chest on the same side impaired; complete absence of cardiac sounds; heart pushed over to the right side, the apex-beat being felt to the right of the sternum; breath sounds on right side and upper part of left lung exaggerated; no evidence of tubercular mischief, nor any family history of phthisis. Temperature in axilla 100°; pulse 104; respiration 48.

With these unmistakable signs of latent effusion, I sent him home with directions to go to bed at once, to apply hot linseed poultices to the side, and prescribed some diaphoretic mixture with small doses of infusion of digitalis every four hours. When I saw him the next day the physical signs were the same. He had passed a restless night, perspired profusely, had several slight attacks of syncope, and vomited twice. His urine was scanty, high coloured, free from albumen, and gave a copious precipitate with the silver nitrate test. For several days following his temperature, pulse, and respiration were much the same. There was an entire absence of pain. He coughed only slightly at long intervals, and lay upon the affected side. The attacks of syncope were frequent, and always followed any attempt to sit upright. He vomited occasionally after taking nourishment, and suffered each night from profuse perspiration.

On Feb. 23rd, his temperature fell to 99°, and his pulse to 96. I put him upon drachm doses of syrup of iodide of iron three times a day, and painted his chest back and front with equal parts of tincture and liniment of iodine. He also took a teaspoonful of cod-liver oil twice daily. This treatment was continued for three weeks, with marked improvement in his general health. The attacks of syncope and vomiting were less frequent. There was no history of any rigor, but his night sweats were constant and distressing. The effusion, however, remained practically the same. There was no diminution in the area of dulness. The respiratory murmurs, vocal vibration, and voice sounds were absent, and the apex beat continued to the sternal side of the right nipple. On March 16th I introduced a medium-sized aspirator needle into the sixth interspace in the mid-axillary line, and drew off two pints of pale, straw-coloured serum, rich in fibrine, which almost immediately coagulated. Just as I withdrew the last quantity, the piston of my exhausting syringe was rendered useless by the washer becoming detached, and I was compelled to remove the needle at once. Before leaving the house I had the satisfaction of observing the apex beat restored to its normal position. The lung came down directly, and the vesicular murmur was apparent in the infra-scapular region. He made an excellent recovery. Four days after aspiration he was able to sit up, and at the end of a fortnight left home on a visit to some relations in Essex. When I last saw him, May 20th, he looked the picture of health. The respiration was almost identical at both bases, the movements of the chest perfect, and he told me that he had gained a stone in weight since his illness.

Remarks.—Cases of latent pleurisy are by no means rare, and are familiar to every practitioner of medicine. In the one reported above there are, I think, several points of interest. Experience has taught me the value, nay more, the importance, of early aspiration in cases of extreme, or even moderate-sized, pleuritic effusions. It is chiefly due to the researches of Trousseau, following those of Schuh and Skoda of the Vienna school, that the removal of the fluid by artificial means is now regarded as a wise and judicious proceeding, and averting the tendency to sudden death which occasionally happens in these cases. Dr. Roberts, in his Handbook of Medicine, gives his opinion that "ordinarily the fluid is best taken away by the aspirator; in exceptional cases the trocar must be used." This treatment is ably advocated by Dr. Bowditch, who recommends the introduction of the instrument immediately below the angle of the scapula. In three cases of extreme pleuritic effusion under my care during the last eighteen months, treated by early aspiration, the operation was followed by the happiest results. I was able to empty the chest, nor was any repetition of the proceeding required. Had it been possible to overcome sooner the objection of his parents to operative measures this poor boy would, in all probability, have been spared many weeks of suffering, confinement to bed, and saved much loss of time. The existence of a large amount of exudation arrests adhesion between the surfaces of the pulmonary and costal pleura, and by its pressure delays, or even prevents, absorption by hindering the circulation in the bloodvessels and lymphatics. "It must also be evident," as Niemeyer remarks, "that every additional day during which the lung is exposed to pressure, and the longer time allowed for cells to multiply in the exudation, so much the more are the chances of complete recovery diminished, and the danger of a fatal termination increased." The natural process of cure by absorption is uncertain, tedious (in large effusions extending sometimes over many months), and exposes the patient to chest deformity, anæmia, and its pernicious consequences, tuberculosis, syncope, and hypertrophy, with dilatation of the right heart. Early removal of the liquid by aspiration gives the compressed lung the chance of again becoming pervious to air, enables the displaced organs to regain their normal positions and prevents agglutination of the pulmonary alveoli. So far as my experience is concerned, it is an operation almost free from risk, and does not in any way interfere with the subsequent performance of paracentesis, if necessary. The inferences gathered from the case are that the ordinary therapeutical agents have little or no influence in promoting absorption in large pleuritic effusions. The continued existence of the exudation, although presumptive, is not *per se* conclusive evidence of the effused matter having undergone puriform degeneration. The absence of rigors correctly indicated the serous nature of the exudation. Lastly, that it is advisable to carefully examine the condition of the instrument and exhausting syringe before using it.

East Sheen, S.W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. THOMAS'S HOSPITAL.

STRANGULATED UMBILICAL HERNIA; OPERATION; RECOVERY.

(Under the care of Mr. SYDNEY JONES.)

C. C——, a female, aged fifty-two, married, was admitted into the hospital on March 3rd, suffering from symptoms of strangulated hernia, with the following history: For twenty years she had had a swelling at the umbilicus; it had never been quite reducible, but had at times been small and soft. She had worn no apparatus, as it caused her no inconvenience. She was quite well on going to bed on the evening of the 28th of February, but on waking next morning at seven o'clock, she was attacked with severe vomiting; between seven and ten A.M. she passed two loose motions, but there had been nothing passed after. From seven o'clock on March 1st until admission she had had constant sickness, and had been unable to keep down any food. At the same time she had had considerable pain in the abdomen and over the swelling.

On examination of the abdomen there was found an umbilical hernia, which the patient said was larger than usual; it was about the size of an orange, of an irregularly quadrangular shape, deeply congested, and with distinct impulse on coughing. She was a stout woman with a feeble compressible pulse, in a weak condition, and appeared to have considerable pain in the hernia at intervals; the tongue was furred, but moist. A little brandy was given, and an ice-bag was applied to the hernia. The patient vomited twice after admission; the second time the vomit was rather offensive, and as her general condition was worse and there was no local improvement, Mr. Sydney Jones decided to operate.

The operation was performed sixty-six hours and a half after the first symptom. Ether was administered and antiseptic precautions were taken. An incision was made in the middle line over the lower part of the swelling, and an attempt to divide the constricting part at the neck was made, but this failing, the sac was opened and found to contain a mass of deeply congested intestine, and a good deal of omentum. An incision in the lower part of the opening relieved the strangulation, the intestine was returned, and the omentum ligatured with catgut and removed. The edges of the wound were brought together with catgut sutures, and a drainage-tube was introduced.

Next morning she was looking much better. Pulse regular and of fair strength. No further sickness and no pain.

On March 5th the temperature in the evening went up to 101·8° without apparent cause. The urine was drawn off by catheter. On the 6th the urine was again drawn off. The wound was dressed, some sutures were removed, and strapping was applied. The wound looked well. On the 7th there was some diarrhœa, and this continued on and off until the 17th, when two enemata were given and a good deal of fæcal matter came away. Opium had been given but had not checked it.

On the 14th the antiseptic dressing was discontinued and warm water dressing substituted. The wound was nearly healed. After the 17th she had no further trouble, and with the one exception mentioned above there was no rise of temperature throughout. She left cured on April 8th.

STRANGULATED CONGENITAL HERNIA IN A CHILD TWELVE MONTHS OLD.

C. B——, a boy, aged twelve months, was admitted on May 25th for a congenital hernia on the right side. The case was sent in by Mr. Verdon of Brixton. The child had had severe vomiting for twenty-four hours. The hernia was very tense, and there seemed to be much thickening about the neck of the sac. Taxis was tried with a hot bath, and afterwards ice was laid over the rupture, a piece of flannel being interposed between the skin and the ice bag. After a few hours, the vomiting having continued severely and the child being pale and restless and evidently in much pain, chloroform was administered, and Mr. Sydney Jones dissected the parts down to the neck of the sac and divided the structures exterior to this, when the hernia was easily reduced. The edges of the wound were brought together by catgut sutures, and a small drainage-tube was inserted. Vomiting ceased after the operation and the child passed a motion. Next morning the child was quiet and looked better. On May 30th the child had some slight bronchial attack, but this soon passed off, and the child was presented well.

VICTORIA HOSPITAL FOR CHILDREN.

A CASE OF ACUTE RHEUMATISM SIMULATING PYÆMIA.

(Under the care of Dr. RIDGE JONES.)

FOR the following notes we are indebted to Dr. George Weldon, registrar.

George S——, aged five years, was admitted on March 16th, 1882. Family history good. Patient never had rheumatism previously. About a month ago he was struck on the left side of the head by a stone, but no ill effects followed. On March 12th he was taken ill suddenly, with pain in the left side of the head and left eye, vomiting and diarrhœa, which lasted for two or three days, and pain in hands and toes; acute pain in left ear, but no discharge therefrom. There were a few spots on the arms and legs.—13th, 2 A.M.: Delirious; screaming and struggling; continued thus on and off until the 16th, the day of admission, when he slept a little. On admission the child seemed only partially conscious; temperature 102·6°; very restless. He experienced pain wherever touched; both elbows were swollen and fluctuating indistinctly; back of knuckles in a similar state; both ankles and all the metacarpo-phalangeal articulations swollen. All the joints appeared painful. Sterno-clavicular articulations enlarged and painful. Several petechial spots on limbs and body. Left eye: Deep vessels of conjunctiva injected. Iris clouded and discoloured. Pupil contracted; can only distinguish light and shadow with left eye. Tension diminished – 2. Pulse 136, feeble.—18th: Rigidity of neck; less screaming, but a good deal of restlessness.—19th: Hands and joints of toes much swollen; rather quieter; head still retracted.—21st: Slept nearly all day.—25th: The heart's apex was one inch below and a little to the outer side of the nipple. The area of præcordial dulness was much increased. There was loud pericardial friction. The respiratory sounds were good.—29th: The temperature had risen to 104·8°, and there was much delirium.—30th: Temperature 102·4°; skin hot and dry; pulse 135, weak and thready; pericardial friction as before. The child did not now complain of pain. The bowels were open, and the tongue furred.

April 13th: The temperature has been fluctuating considerably, showing evening exacerbations and morning remissions. To-day acute pain in the head and abdomen came on. The pericardial friction has disappeared.—14th: Pain less.—22nd: Acute pain in the left eye, which is quite useless for vision. Tension – 3. Atropine causes a very irregular dilatation of the pupil. Capsule of lens posteriorly coated with lymph, which obscures the retina from view.

May 1st: In a good deal of pain at night. Temperature 102°; pulse 135; tongue clean; vomits occasionally.—3rd: For about half an hour last night intense pain in the left eye.—6th: Chloroform administered. Mr. Cowell then removed the left eye. The sclerotic was found to be thickened, and the choroid also slightly. The capsule of the lens posteriorly was thickened and coated with firm lymph. Had little or no pain in the orbit after the removal of the eye, which seemed to give great relief. The temperature now showed some evening rise and morning remission for the next fortnight, when it became normal, and the child seemed cheerful, and, in fact, was convalescent, going out daily for

exercise in the grounds.—31st: The child suddenly to-day became worse, after being apparently well. Vomited four times in the night; slightly delirious; pulse weak; face pale.

June 1st: Continues the same. Vomiting without effort; cannot take food.—2nd: Fed per rectum; screams at night occasionally. The temperature is normal, and has remained so since May 17th. 4.30 P.M.: Convulsed down the left side; unconscious for about four minutes; breathing quiet.—3rd: Screaming about every three hours in the night; complaining of acute pain in the head; slept quietly in the intervals of the attacks. All day the screaming continued at intervals of two hours, and later on every hour. A regular epileptic fit at 3 P.M.; another between 5 and 6 P.M., commencing with screaming; squinted; in this fit for a quarter of an hour. Passed water during the fit, and came round at the finish with stertorous breathing. Another screaming fit at 7.45 P.M., with slight convulsions. Bowels acted during the fit. 8.20 P.M.: Died quietly, without any further convulsions.

Necropsy.—Pericardium adherent. Brain soft. Convolutions flattened. Both ventricles distended with fluid, about six ounces. No lymph or signs of inflammation about the optic nerve. No disease of mastoid cells.

ULCERATIVE ENDOCARDITIS SIMULATING PYÆMIA.

(Under the care of Dr. JULIAN EVANS.)

Louisa W——, aged thirteen, was admitted May 6th, 1882. History good. Has been treated previously at Brompton for heart disease. No distinct history of rheumatism previously. On May 2nd she was suddenly taken ill. Vomiting but no diarrhœa. Pain in chest and left leg. Left knee became painful and swollen. On admission loud systolic bruit at apex of the heart. Sound loud and clear over aortic valves. Behind, the systolic mitral bruit is heard. Slight presystolic bruit. Left knee-joint is extended by fluid and red, especially above and to the outer side of the patella. A small needle inserted and serum drawn off slightly cloudy. Other joints not red or painful.—7th: Ordered five grains of salicylate of soda every two hours, but stopped next day owing to much delirium and deafness during the night. Tongue brown.—9th: Pain in right knee.—10th: Passed a better night under the influence of opium. In great pain this morning. Delirious. Left knee less swollen, but pain in nearly all the joints, especially in knees, elbows, and ankles. Small joints of fingers not affected. Red patches and some vesicles and bullæ on hands and feet. Delirious during the night. Temperature 105°. Much injection of sclerotic vessels of left eye. Area of præcordial dulness much increased. Heart sounds loud and thumping. Friction sound chiefly with first sound. Respiratory sounds feeble.—11th: Much worse. Temperature 105·6°. Bullæ increasing in size and number, filled with serum, and pus around the margins. Left pupil dilated. Cornea and iris cloudy. Much chemosis of lower half of conjunctiva. Tension − 2. Tongue brown and furred. Much delirium. Ice bag applied and cold packing, but without materially reducing the temperature. Heart's area larger still. Some twitching of arms and resistance to extension. Some fluctuation in both knees, and slight redness over ankles.—12th: The temperature has fallen to 103°. Passed a better night under the influence of morphia; remains about the same in other respects.—13th: The temperature remained at 103° until 8 A.M., when death occurred.

Necropsy.—Dusky spots over body. Numerous bullæ, in size from that of a pin's head up to that of a shilling, on arms and legs. Heart: in left auricle a large vegetation about the size of a small raspberry; from upper surface of left auriculo-ventricular valve another growth, extending upwards, and just touching the former growth. Numerous inflammatory papillary granulations around, and fringing the free surface of the auriculo-ventricular valve, which is much thickened. Aortic valves thickened, irregular, and fringed with similar granulations. Right lung slightly bound down by adhesions; lung tissue fairly healthy, but slightly congested at bases; liver normal; spleen large, numerous infarcts scattered through it both old and recent; kidneys in same state as spleen; brain and meninges healthy. In both knee-joints a quantity of sero-pus, but no ulceration of cartilages or degeneration of synovial membrane. Both conjunctivæ were much injected and œdematous; both irides cloudy; vitreous of left eye thick and yellowish.

LIVERPOOL ROYAL INFIRMARY.

TUBERCULOSIS OF URINARY APPARATUS; SYMPTOMS SIMULATING VESICAL CALCULUS; MENINGITIS; DEATH; NECROPSY; REMARKS.

(Under the care of Mr. REGINALD HARRISON.)

FOR the following notes we are indebted to Mr. Ernest Barnes.

E. S——, aged eleven, a schoolboy, was admitted on June 19th, 1882. About eight weeks before admission the patient after micturition passed some pus, which he described as being in little nodules. The symptom continued occasionally for twelve days. This was followed by the discharge of minute clots of blood at intervals after micturition. On admission, in addition to this history, he complained of micturating frequently with pain, afterwards referred to the penis and neck of the bladder. He was a fair delicate-looking boy, and for twelve months had often complained of headache. The urine was normal in appearance; sp. gr. 1010, acid; contained mucus and a trace of albumen.

June 20th: Mr. Harrison introduced a sound under ether, but no stone could be detected. Volkmann's bimanual method of examining the bladder was then employed, when a nodule at the fundus was distinctly felt. In the evening the temperature rose to 102°, falling in the morning to 97°. The patient was placed on a milk diet, and kept in bed. The evening rise in temperature continued.—24th: It was noted that he was slightly delirious during the night. Cold applications to the head were employed.—26th: Had a very restless night. In the morning he passed into a semi-conscious state, with strabismus and other symptoms of acute tubercular meningitis.—On the 27th he remained in much the same state of semi-unconsciousness. Some urine that he passed was found to be of sp. gr. 1020, acid, one-sixth albuminous.—30th: Died, having been quite unconscious for some hours.

Necropsy.—Lungs contained recent miliary tubercles. Liver was normal in size, also containing tubercles. The right kidney was healthy, ureter dilated; the left was enlarged, and, on section, the pelvis and calyces were dilated, and contained a yellow strumous membrane. This yellow, almost puriform, membrane extended along the whole length of the dilated left ureter to the bladder. There were tubercles in the substance of the kidneys, and some of the pyramids were partly absorbed. Bladder: the mucous membrane was covered with a multitude of minute superficial ulcerations, not apparently of a tuberculous kind; the mucous membrane of the trigone was roughened; at the apex of urachus a caseous tubercular nodule was formed which had been felt during life. Brain: convolutions flattened, lymph at base, ventricles very much dilated; recent miliary tubercles were found in both Sylvian fissures.

Remarks.—Mr. Harrison observed that there were points of special interest in this case, which was a good illustration of what might be seen in a class of disorders to which the term "urinary phthisis" had been applied. He had seen a good many instances of it in hospital practice, the patients being usually sent there on the suspicion that they were suffering from stone. The symptoms of urinary tuberculosis so closely resembled those of stone that an examination of the bladder with the sound was unavoidable. Under all circumstances it was necessary that such an examination should be conducted with the greatest gentleness and delicacy. Though the symptoms which followed made their appearance during the third day after the sounding, he felt sure that the latter proceeding was in no way responsible for arousing them. The patient was under ether and felt no pain either during or after the passing of the instrument. Whilst the patient was under the anæsthetic the value of Volkmann's method of examining the bladder with the finger or fingers of one hand in the rectum and the other hand above the pubes was demonstrated. The tubercular nodule in the fundus of the bladder was distinctly felt. In the diagnosis of growths and deposits in the bladder other than stone, Mr. Harrison had on several occasions demonstrated its assistance. Lastly, in the diagnosis of urinary tuberculosis attention was directed to the great value of careful and continued thermometric observation. In the irritability which accompanies stone in the bladder and tumours, an evening rise in temperature is only met with under very exceptional

circumstances—it cannot be said to be symptomatic of these affections—whilst in urinary tuberculosis it is constantly observed, and is to be regarded as an objective symptom of importance. Though in these cases the evidence afforded by an examination of the bladder with the sound is valuable, it would be quite possible to arrive at a conclusion by the other means of observation to which reference has been made.

Reviews and Notices of Books.

Physiologie des Muscles et des Nerfs. Par CHARLES RICHET. Avec 100 Figures. Paris: Germer Baillière et Cie.

IN this series of twenty-four lectures the reader must not expect to find a complete treatise on the physiology of muscle and nerve, for although many parts of the large subject of which it treats are considered at great length, others—such, for example, as the flow of blood through muscle during and in the intervals of contraction—are almost entirely neglected. In fact, M. Richet tells us himself that he was inclined to designate his work Lectures on Irritability. Throughout their whole extent he seeks to show that the laws of excitability are alike for nerve and muscle, and that there is little to distinguish the wave of undulation that accompanies muscular contraction from that which traverses the nerve-cell when stimulated or the nerve-fibre when it is the means for conducting a stimulus.

M. Richet commences, as might be expected, with an account of the movements of the cell. He gives, as a definition of irritability, "the reaction of the being to the external forces acting on it," a definition not very dissimilar to that of life given by Herbert Spencer.

M. Richet proceeds to describe the effects produced on excitability by various stimuli, as thermic, mechanical, chemical, and electric agents, constructing curves which represent them graphically. He gives the following as a *résumé* of the conditions of cellular irritability. Oxygen is necessary, since that gas is consumed throughout the life of the cell. The vigour of the movements augments with the increase of temperature from 0° to 40° C., but after 40° C. the movements cease. Neutral and feeble alkaline solutions are favourable, acid are fatal, to them. Every change of state is an irritant to a cell, and consequently provokes its contractility. This change of state must be sudden; if slow, it does not provoke any reaction. Reaction to excitation is not sudden, but there is a period of latent excitation, a period which diminishes in proportion as the intensity of the excitability increases. Excitations so feeble as to be without effect when isolated, become effective when repeated at short intervals. A very short excitation provokes a prolonged movement. M. Richet coincides with Sewell in believing that the latent period in the contraction of muscle is very short; if it exist at all, it probably does not at most exceed 0·002 second. He gives the graphic tracings of the muscle curve from Marey, and shows the effects of weighting and of successive shocks with different intervals. He divides the relaxation consecutive upon contraction into two periods—a primary period, which is quick and sudden, and a secondary one, which is much slower. The latter he proposes to term contracture, which we think is to be regretted, since the word has already an accepted signification in surgery and pathology. In regard to this muscular contraction, he considers it to be a transient modification of the elastic tissue of muscular tissue; it is only observable in muscles that have few motor nerves, or in muscles the motor nerves of which are exhausted. It is a matter of regret that we have no term in English synonymous with *secousse*, which means the shock of a single muscular contraction; but gynæcologists will be interested to learn that the contraction of the uterus in labour-pains is not of the nature of a tetanic contraction or fusion of many contractions into one, but is a single long contraction, lasting on an average 106 seconds. In regard to the effects of stimuli it is shown that when very feeble they may fail to cause contraction in a muscle, but that they nevertheless have a cumulative action, so that contraction occurs after the application of five or six stimuli, which would individually have been without effect; good tracings of this are given. M. Richet gives a table of the number of excitations required to produce tetanus, which shows that it varies greatly in different instances, amounting to 300 per second for the insect, 100 for the bird, 40 for the striated and 2 for the unstriated muscles of man, and 3 per second in the tortoise, whilst in the snail one excitation in ten seconds will produce tetanus. He gives as the result of his own researches the duration of the excitability of muscle, when no longer irritated by a current of oxygenated blood, and finds it to be one minute for the caudal muscle of the lobster, twelve minutes for the gastrocnemius of the frog in summer, forty minutes for the tortoise, five minutes for the dog, and one hour for the snail. But he acknowledges that great differences exist in the physiological states of the muscle which may in turn modify the duration of their excitability; in one instance, for example, the flexor muscles of the foot of the dog were excited for two hours at the rate of twenty induction shocks per second without being exhausted, so that it had received no less than 100,000 shocks.

We turned with some interest to see what M. Richet had to say in regard to the first sound of the heart, but he is too wary to make any positive assertion. The admission of a muscular sound as an element of the systolic bruit is, he says, in contradiction to the hypothesis that the cardiac contraction is a simple shock; but we do not know enough of the internal mechanism of contraction to conclude that the cardiac systole results from the fusion of several elementary shocks. On the other hand, it may be true that the shock occasioned by a single electrical excitation is composed of several smaller vibrations. On the whole, the question is left an open one.

A chapter is devoted to the elasticity, absolute force, and work of muscle. Tonicity, the author considers, may be only a modification of muscular elasticity, but this elasticity is subject to the control of the nervous system; and in support of this he points out that if the motor nerve of a muscle be cut the muscle relaxes, but it only relaxes if stretched by a weight. The relaxation, therefore, he maintains, is only a diminution in the elastic force of the muscle, or an augmentation of the extensibility. Speaking of the chemical constitution of muscle, he finds that, operating with 60 kilos. or 125 lb. of muscle, he was able to obtain 30 grammes, or about 0·5 per cent., of sarcolactic acid. The chemical and other phenomena accompanying muscular contraction are very fully given, and there is a short exposition of the pathological physiology of muscle.

The second half of the volume is occupied with the consideration of the physiology of the nerves, but we have no space to comment upon it.

The value of the work to a large number of readers will probably consist in the references it contains to other works, and the very clear summary of recent papers that it presents.

The Journal of Anatomy and Physiology. Conducted by Professors HUMPHRY, TURNER, and M'KENDRICK. Vol. XVI., Part IV. July, 1882. London: Macmillan and Co.

THIS part completes the sixteenth volume of this valuable and well-sustained journal. It contains six original articles: 1. Observations in Comparative Myology, by Hans Gadow, in which he discusses the question of the naming of muscles according to a uniform morphological principle; he then endeavours to illustrate the changes which the muscles of the vertebrata may undergo; and lastly, he describes the arrangement of the muscles of the hind limb, and traces

their homologies through the Amphibia and Sauropsida to man. 2. Fat Embolism, by Robert Saundby and Gilbert Barling, who append several cases which have come to their knowledge. 3. Micrococcus-poisoning, by Alex. Ogston. This observer, referring to recent writings, asks, Is it difficult to believe that micrococcus can be injurious or innocent just as it is allowed to grow under suitable or unsuitable conditions of culture or soil? His conviction is that the common micrococci which exist around, on, and in the human intestines, and which are resisted in their attempts at entrance by healthy individuals, but sometimes enter under conditions of lessened vitality, are one and the same with the virulent cocci which cause inflammation; that the difference is only that the production of acute inflammation shows they have found a suitable soil, a weak spot, or a weak individual, where they are cultivated in a mode calculated to elicit their virulent qualities. This paper is a very interesting one. 4. The Action of Saline Cathartics, by Matthew Hay. This article deals chiefly with the action of sodium sulphate. 5. A variety of Pulmonary Lobation, and its relations to the Thoracic Parietes, as illustrated by Comparative Anatomy and Abnormalities in the Human Subject, by William Allen. 6. Critical remarks on Polydactyly as Atavism, by C. Gegenbaur.

The Illustrated Quarterly Journal of Medicine and Surgery. Edited by GEORGE H. FOX and FRED. R. STURGIS. Vol. I., Nos. I. and II. New York: E. B. Treat. London: J. and A. Churchill.

THE first two numbers of a new American illustrated journal are before us. Each consists of twenty-four quarto pages of text, illustrated with wood engravings, and of four quarto coloured plates. The editors are promised the help of some of the most esteemed members of our profession in America. The illustrations are well done, and are abundant even to profusion, numbering twenty-one and twenty-eight respectively in these two parts. The cases have been well chosen, and care has evidently been taken to have a fair variety in each number. If the editors are able to make as good a selection of cases in the future, and can successfully resist applications to publish unimportant communications which happen to be well illustrated, we anticipate that this will be a popular and useful publication.

New Inventions.

JARVIS'S WIRE ECRASEUR MODIFIED BY JEFFERSON BETTMAN, M.D.

THIS is a modification of the Jarvis snare, shown at the International Medical Congress. It was devised specially for the removal of nasal polypi and hypertrophic tissue covering the turbinated bones. Its action is simple and efficient, and when properly used it should occasion but little pain and loss of blood. In the original instrument the sliding or outer cannula was propelled by a milled nut or

wheel, which has now been replaced by a flattened bar; this, for mechanical reasons, entails less expenditure of force and can be manipulated with greater ease and comfort. One of the chief points in the modified écraseur consists in the clamp screw to fasten the free ends of the wire loop. In Jarvis's instrument these were wound around small retention pins, and, if the case required, had to be undone and rewound. This is obviated in the modification; a simple turn of the screw releasing or clamping the wire. Another point hereby gained is the impossibility of a fracture, the wire, except at its looped extremity, remaining straight throughout its entire length. The straight tube, which is used for operations in the nasal cavity, can be unscrewed from the handle and replaced by a long tube with the post-nasal curve, so that tumours or redundant tissue, growing from the posterior nares or in the naso-pharyngeal space, can be operated upon through the mouth. The wire used is the same as has been already recommended by Voltolini (Anwendung der Galvano-caustik, Wien, 1872, s. 251)—i.e., annealed steel pianoforte strings, Nos. 5 or 6. The instrument is made by Messrs. Mayer and Meltzer.

AN ANTISEPTIC TROCAR CONVERTIBLE INTO A PROBE-POINTED KNIFE.

MESSRS. ARNOLD AND SONS have made for Dr. Ward Cousins a modification of the antiseptic trocar described in THE LANCET, Nov. 26th, 1881. After, by means of the trocar, the existence of fluid has been determined, the inner

tube of the instrument can be removed, and a probe-pointed knife, which fits exactly, can be passed along it, and is made so as to leave a cutting edge of one inch and a quarter in length. The direction of the edge of the knife is shown by a mark on the handle. This instrument may prove useful in cases of deep-seated abscesses and empyema.

ARTIFICIAL RESPIRATION IN PUERPERAL CONVULSIONS.

To the Editor of THE LANCET.

SIR,—While congratulating Mr. Millican on the result of his case, recorded in THE LANCET of July 22nd, I may mention that artificial respiration was used in a case of puerperal eclampsia which I saw with Dr. Lambert of this town on June the 12th, 1881. The patient, a primipara, aged twenty-one, was seized with a convulsion at midnight, and though she lost consciousness, which never returned and the convulsions recurred frequently during the night, her husband did not seek for medical aid till seven in the morning, supposing her condition to be the usual symptom of approaching labour. Notwithstanding the inhalation of chloroform and the hypodermic injection of morphia, the convulsions increased in frequency and intensity, and about one o'clock, as she was evidently sinking, and the fœtal heart's sounds were becoming fainter and fainter, it was decided to remove the fœtus with the forceps; but before this was attempted she had another convulsion, and when it had passed off she lay motionless, having ceased to breathe, and was apparently dead. Air was made to enter her lungs by the method of Silvester, and after a little time natural respiratory efforts returned, but as they frequently failed, artificial respiration had to be fallen back upon several times, till at half-past four she had a convulsion, in which she died, all restorative measures, including the hypodermic injection of sulphuric ether, proving useless. Artificial respiration undoubtedly prolonged her life for more than three hours, and gave time for the extraction of the fœtus, which was, however, dead; but had the convulsions been caused by the nervous supply of the respiratory muscles being temporarily knocked off its balance by reflex irritation, the result might possibly have been as satisfactory as Mr. Millican's, but unfortunately the uræmic odour was very marked, and the small amount of smoky urine found in the bladder almost completely solidified when heated, showing the presence of the usual cause of true puerperal eclampsia.

I am, Sir, yours faithfully,

Sunderland, July 28th, 1882. JAMES MURPHY, M.D.

THE LANCET.

LONDON: SATURDAY, AUGUST 5, 1882.

THE Executive Committee have quickly followed up their report to the meeting of the Association for the Advancement of Medicine by Research, by the publication of a valuable "Memorandum of Facts and Considerations relating to the practice of Scientific Experiments on Living Animals, commonly called Vivisection." It was necessary that some such statement should be the first publication issued by the Society, and the admirable manner in which this Memorandum has been drawn up promises well for the future prosperity of the Association. Calm and clear in its statements, it is yet most cogent in its reasoning, and we confidently expect that it will be very useful as a temperate, well-reasoned expression of the truth. The question of the even further restriction of experimental research in physiology and pathology in this country is almost sure to arise in Parliament before long, and the opportunity should be seized to make known in the Legislature the real facts of the case, and to strengthen the hands of the Government in the wise administration of the existing Act.

The Memorandum starts with the assertion that the art of medicine "does not depend upon arbitrary dogmas, or upon the theories of one or another school; it depends upon accurate knowledge of the structure and functions of the body in health and disease, and of the effects of various agents upon it, applied in each case by the aid of bedside experience." Knowledge of physiology, pathology, and pharmacology depends entirely upon observation and experiment; and it is pointed out that, in spite of the difficulties of research into the natural laws of living beings, "it would be as reasonable to expect the institutes of medicine to advance without laboratories and experiments on animals, as to hope for progress in chemistry or physics by allowing only observation upon metals and gases and forbidding the performance of experiments." The experience of the whole profession in all parts of the civilised world supports this assertion, and those most busy with the practical duties of their calling are among the most keen in their appreciation of the efforts and results of the more purely scientific investigators. The moral consideration arising from the fact that some physiological and pathological experiments cause pain, and some even loss of animal life, is next dealt with; and the duty of making a comparison between the injury to a sentient creature and the probable benefit to mankind or to others of his own species is freely accepted. A classification of experiments clearly shows that it is only a small number of them which are attended with pain at all, and that of these the large majority entail pain of quite insignificant amount, as the prick of a hypodermic syringe, or more prolonged discomfort, which in no way approaches what in other relations is spoken of as torture. The medical profession has never been behind the age in its feeling for the sufferings either of humanity or of the animal creation, and although there are exceptions to this as to every rule, it is yet true that the charge of wanton cruelty has never been established against any investigator of repute in this country. The latter part of this Memorandum states the objects of scientific experiments on living animals, and it ranges these under six heads, as follows: (1) To extend, correct, and define our knowledge of the functions of the living body; (2) to obtain direct and exact knowledge of the processes of disease; (3) to test various remedial measures directly; (4) to ascertain the means of checking contagion and preventing epidemic disease both in men and brutes; (5) for instruction, and (6) for the detection of poisons. Under the first four heads many examples of experiments upon living animals which have proved of great value for those special purposes are detailed, and it is clearly shown that the advantages which have been derived by the experimental method of research are experienced in every branch of our art, and that dumb animals have participated in them in no small proportion. If a more mercenary view should commend itself to some in this utilitarian age, they will find that the now much abused and miscalled "vivisection" has added not inconsiderably to the wealth of nations. While it is only fair that physiologists should be required to answer the question *Cui bono?* in reference to the experimental method as practised for long periods of time—and it is a demand they need not shrink from—it is entirely unfair to ask the question of an experimenter as applied to each experiment. It is enough that its object be the elucidation of truth, and he may be content to wait for the recognition of the practical value of any given portion of truth—of any natural fact—until knowledge has so advanced as to show its appropriate place in the order of nature. In reference to the question of demonstrations to students, while it is insisted that physiology, like other sciences, should be taught practically, if at all, it is pointed out that long before the passing of the present Act experiments involving pain to animals were by common consent excluded from all courses of Practical Physiology, at any rate in this country. We believe that it is no exaggeration to say that "the evidence is ample to show what no one conversant with the subject doubts that the great strides made in the practice of medicine during the last fifty years have been chiefly due to the exact scientific and experimental inquiries of this epoch." And this being so, "so long as scientific men exercise their responsibility in the humane spirit which has hitherto guided investigation in this country, they have a right to ask that no unnecessary obstacles should be placed in their way."

THE question of the Notification of Disease seems to be exciting considerable attention in Greenock, which happens to be one of the few towns in which such a system has been more or less in force for some years. In consequence of this fact, Dr. WALLACE, the medical officer of health, was requested, some months ago, to furnish a report of the working of the system for the guidance of the Select Committee of the House of Commons on Police and Sanitary Regulations. The Report is in favour of a system of notification by the medical practitioner. Hitherto the practice has been that of notification by the householder. It was originally proposed in the Police Bill of 1876 to require the medical practitioner to report to the sanitary inspector every case of infectious disease in his practice. For this report he was to receive

2*s.* 6*d.* In default of such report he was to be liable to a fine not exceeding 40*s.* This clause was altered out of deference to the opposition of medical men, who thought it would tend to impair the confidence placed in them by the public and defeat the object of the Bill. The responsibility of notifying was then thrown on the householder. Dr. WALLACE says that many medical men then expressed an inclination to help the working of the Act. But though he admits that "the more respectable" practitioners in the town have done what they could to help him, the tone with regard to the profession generally is one of complaint, and one which we cannot but regret he should feel called on to use. "Covert if not open hostility, he observes, has been shown by others." He says in this Report, addressed primarily to the Board of Supervision of Scotland, that some practitioners not only did not advise the householders to report, but failed to give any advice themselves about disinfection and other measures of protection. "In several instances, practitioners studiously avoided *naming the disease*, in order, apparently, that the householder might say that he did not know the patient was labouring under an infectious disease. Indeed, instances have occurred of the practitioner having refused to specify the disease even when asked by the householder who had suspected the real nature of it, and was willing to comply with the law," &c. Dr. WALLACE thinks that "many medical men, in many cases requiring removal to a hospital, believe that the duty of reporting is an arbitrary mode of depriving them of their means of livelihood," &c.

Notwithstanding Dr. WALLACE'S complaints against many of the practitioners, he is able to offer a very strong proof of the advantages of even the imperfect notification he has received. A large number of the reports reach him from registrars in cases of death—605 out of 4423; a small number direct from medical men—106; a large number of cases are discovered by sanitary officers, and a large number by neighbours who begin to know and appreciate the law. Though the present system admits of no further development—there being no substantial increase in the number of Reports for the last two years—it has still wrought a considerable improvement in the public health. The average death-rate has fallen considerably, as well as the average annual percentage of deaths from diseases of the zymotic class, so that Greenock now has the lowest mortality among the large Scotch towns, instead of almost the highest. The reduction in some particular zymotic diseases is very striking, as shown, e.g., in two five-year periods, 1871–5 and 1876–80, respectively, from the following diseases: Small-pox 55·20, 28·13; measles 50, 28·20; scarlet fever 93·40, 12·20; typhus 29·80, 19·20. The mortality from scarlet fever used to be 4·64 per cent. of all deaths in twenty-two years; in the last five the mortality has been ·89 per cent. Dr. WALLACE says the mortality of cases removed to hospitals as compared with those treated at home was in 1878–81 as follows, in whole numbers: Typhus 15, 23; enteric 11, 22; scarlet fever 5, 11; measles 3, 1.

It must be remembered that Dr. WALLACE'S statement is an *ex parte* one so far as it is made from the standpoint of the medical officer of health. We cannot but think it would have been better to have taken his evidence direct before the Committee, and to have had in sharp succession to it that of the practitioners in Greenock. *Audi alteram partem.* We are loth to believe that any considerable number of practitioners, rightly appealed to, would be found unwilling to facilitate such an object as the restriction and limitation of infectious disease. Dr. WALLACE thinks that no further results will be got out of the householders' notification. He gives a singular reason for preferring that the medical officer should be made responsible. The householder, he says, is apt, by the intimation of the diagnosis of infectious disease, to be thrown into confusion and distraction. But is the doctor a man of leisure, with nothing to do but write and send to sanitary inspectors reports of infectious disease? Certainly he is not. Our belief is that Dr. WALLACE and other medical officers of health will find valuable co-operators in the isolation of disease in medical men if they will give them credit for being willing to be such, and if they will not strive to put upon their shoulders legal duties which attach properly to householders and parents.

FROM the brief report of the meeting held at the Royal College of Physicians on the 27th ult., which appeared in our columns last week, it will have been seen that the Fellows passed a resolution to the effect that the system of extensively advertising medical works, and the custom of giving, whether for publication or not, laudatory certificates of medicinal and other preparations, and of medical and surgical appliances, is misleading to the public, derogatory to the dignity of the profession, and contrary to the traditions and resolutions of the Royal College of Physicians. The College is to be congratulated on the action it has taken in this matter. Medical authors we are sure will take care, if publishers insist on advertising works of which they have the copyright in the columns of the daily press, that at least in future the advertisements will be shorn of laudatory notices. It is a matter, however, of regret that a more decided expression of disapproval was not given with regard to advertising medical works in the lay press. As the resolution at present stands, it leaves this open to the conscience of individual Fellows. As regards the majority, there can be little doubt that the liberty will not be abused; still there are some who are well known to have peculiar views on the subject, and a stringent resolution might have had the effect of making them conform to the general practice. Undoubtedly the profession as a body views with growing suspicion those of its members who are continually sounding their own trumpets, whether the note takes the form of extensively advertising their own works, or connecting their names with every pharmaceutical preparation, aperient waters, patent foods, or medical and surgical appliances, or of signing bulletins for insertion in the public journals with regard to the health of some comparatively insignificant personage who may happen to have the gout or an attack of influenza; or of a more ingenious form, which has lately come into vogue, of publishing cases which appeal to the sympathy and the imagination of the public in the reports intended for general circulation on the part of special hospitals. At the present day no excuse can be admitted for these practices. Forty or fifty years ago it might have been urged that a professional man had few opportunities of making himself known except to the limited circle of his school and a few professional

friends. But such an excuse cannot be maintained at present. Since that time the Medical Societies have multiplied to a prodigious extent, so that it is not difficult for a man who has anything to show or say, worth showing or saying, to bring it directly under the notice of the profession. The same may be said of the medical press: not only have the old-established journals vastly extended their columns for the reception of original articles, but nearly every branch of the profession has its own journal in which matters of special interest may be discussed. With so many legitimate means at command of bringing himself into notice, a man must indeed be perverse, and even blind to his own interests, to seek for ephemeral public approbation at the risk of losing the substantial rewards that surely, if somewhat slowly, await those whose work has received the stamp of approval from their professional brethren.

IN our Local Government Department we give a summary of eight reports on certain sanitary districts in the county of Denbigh, the reports having been prepared with a view of facilitating a final decision as to whether the districts in question can best be served by being formed into a united district for the purposes of the appointment of a medical officer of health, or whether the existing arrangements, which are without uniformity, and which involve the appointment of thirteen health officers, all engaged in private practice, shall be maintained. Acting, we assume, under official instructions, the Local Government Board inspector for North Wales has made a statutory representation, such as is required under the Public Health Act, 1875, to the effect that such a combination of districts is desirable in the interest of the several contributory places concerned; his action in this matter having received the support of the St. Asaph Rural Sanitary Authority, who in 1873 expressed a desire to see some such combination brought about; and that of the Ruthin Rural Authority, who in 1875 passed a resolution, which they soon after rescinded, to the effect that a combined appointment of one officer of health for the several sanitary districts of the county of Denbigh would conduce to a more efficient system of sanitary administration.

The reports referred to raise the whole question as to whether it is desirable as a rule to employ medical officers of health, not engaged in private practice, to act for a combination of sanitary districts, or whether it is more advantageous to appoint medical practitioners having other duties to act as resident health officers over smaller areas. Very valid arguments may be brought forward in favour of both methods of appointment, and it is by no means easy to lay down a rule which shall be applicable to all districts alike. On the one hand, it is contended that in his own immediate district a medical man who is both health officer and engaged in actual practice has special facilities for hearing of cases of infectious disease, and for suggesting immediate remedy, that he must of necessity have constant opportunity of acquainting himself with the sanitary condition of the localities in which his work lies, and that his occupation limits him to a comparatively small area, where he can, as a rule, be found on any emergency when immediate action or advice is needed. On the other hand, it is held that a medical officer of health who is appointed for a term of years over a district large enough to secure for him an income apart from private practice, occupies a position of independence such as is necessary to the proper performance of the duties of his office, that he is free from the risk of offending patients, that he can secure in his work the needful aid of medical practitioners in a way which no competing colleague could aspire to, and that he has the special inducement, together with the favourable opportunities, for making himself thoroughly conversant with the scientific and practical aspects of public health questions, and that he hence acquires an influence both with the public, and as regards his advice to sanitary authorities, which could not otherwise be expected.

Speaking generally, we cannot but feel that the more weighty arguments lie on the side of those who would require the officer of health to devote his whole time to his duties. Perhaps the most prominent objection to this plan has reference to the fact that in a wide district such an officer might not be found in moments of urgency. But as a matter of experience, these sudden emergencies do not often arise, and the possible delay in securing the attendance of the health officer on some such special occasion is not to be compared in importance with the hindrances due to the endless and daily recurring ties of active practice, which compel the ordinary medical practitioner constantly to postpone his visits as officer of health until they become practically useless for the matter immediately under consideration. Besides which, too much importance must not be attached to instantaneous advice given on these occasions of emergency, and which has for its object to deal with some impending mischief, such as an epidemic; for it is rarely that proper effect can at such a moment be given to the advice, and even if efficiently adopted, it is seldom to be compared in value with the continuous action which is undertaken on the advice of a competent and trusted health officer, and which steadily does away with the very conditions which would otherwise tend to favour the occurrence of the emergencies anticipated. Regarding the proposed Denbighshire combination from these several points of view, it is quite obvious that, with one or two exceptions, real progress in sanitary administration has been all but limited to the sanitary districts employing as medical officer of health the only officer out of the thirteen referred to who has been able to give a large portion of his time to the duties of that office, and who is specially referred to as having taken pains to acquaint himself fully with the principles of sanitary science. Other officers have been assiduous, but they have, as a rule, failed to induce their authorities to carry out the remedial measures suggested.

Hitherto the sanitary authorities concerned have been unable to arrive at any decision as to which sort of appointment they should make, and, judging from the account of their more recent deliberations, unanimity does not seem to be near at hand. The proposed district is not extensive to a fault, as some combined districts have been; it is almost surrounded by railways, giving reasonably easy access to most of its populous localities, and, in view of past experience in the sanitary administration of its several component parts, it certainly seems desirable to secure for the whole county that uniform advice on health requirements

which emanate from one skilled officer, and which has already led to good results in some three or four of the sanitary areas comprised within it.

Annotations.

"Ne quid nimis."

HOSPITAL SUNDAY.

IT is very gratifying to us to notice the steady growth of the Hospital Sunday Fund. The effects of the commercial depression upon the natural growth are now passing away, and the collection of 1882 exceeds that of 1878 by nearly £10,000. The cash received to July 18th amounts to £34,424 12s. 2d. After paying £1380, the proportion set apart for the purchase of surgical appliances, and allowing sufficient for liabilities and current expenses, the amount available for distribution is £32,415 13s. 9d., which, thanks to the prompt action of the Council, is now being distributed among the needy hospitals and dispensaries of the metropolis. On the Saturday preceding the collection we were at some pains to illustrate what we called the starvation of our hospitals. We are glad to know that our facts and statements received attention in the pulpits of the metropolis on Hospital Sunday, and were found very useful as a basis for the appeals of clergymen and ministers, which resulted in a collection exceeding by about a couple of thousand pounds the collection of last year. We are not yet satisfied with the collection. It represents neither the wealth of London nor its religion, nor the amount and gravity of the disease which is carefully and skilfully attended to in hospitals and dispensaries. We are, nevertheless, grateful for the strides by which the collection seems to mount up to the £50,000 which we think it ought to reach, and we regard these strides as an indication of the growing interest of the people, at least of religious people, in the great problem and duty of mitigating human suffering. There is another serious reason for a steady and considerable increase in the amount of the collection — viz., the gradual increase of the number of institutions claiming to share in the benefit of the Fund. It was shown by Dr. Glover on Wednesday, at the meeting of the Council, that while the collection of this year exceeds that of 1880 by £4000, many of the best hospitals are getting less out of the larger collection than they got out of the smaller. This was true of no less than half of the hospitals. The explanation given by Mr. Thomson Hankey, and no doubt largely the right one, was that the number of institutions claiming to share was constantly increasing, being now 145 against 130 in 1880. The value of this collection is intrinsically great. Let anyone try to collect such a sum for any other purpose that is not occasional, and in its nature sensational and temporary, and he will find how impossible it would be to get such a consensus of benevolent effort, in which Jew and Gentile, Protestant and Catholic, vie with each other. But it is not so much the amount of the collection that is so valuable, as the wide area of popular sympathy and interest in which it takes its rise. Until the institution of Hospital Sunday, the maintenance of hospitals had been the special and almost exclusive care of the wealthy and aristocratic classes of society, who, to their credit, supported them well. It is far better, however, and altogether fitter, in these days, when wealth is more equally distributed, that all classes should share in the pleasure of supporting hospitals and dispensaries; and it is the great value of Hospital Sunday that it brings this pleasure and this duty directly before thousands of people who would otherwise not be so appealed to.

BRIGHTON SEWERAGE.

IT is in no hostile spirit that we publish the report of Mr. Bailey-Denton on the sewerage of Brighton. The views and suggestions he has made seem to us so important, that it is only fair to the authorities and ratepayers of Brighton to place them at their disposal while there is yet opportunity to make use of them in the way of practical reform. It is needless to point out that the judgment formed and expressed by Mr. Bailey-Denton is no more dictated by prejudice than our own strictures have been prompted by malice against the most conveniently placed and generally eligible of seaside resorts in which Londoners are personally interested. It is childish to treat the friendly remonstrances of professional critics as the outpourings of a spirit of envy or animosity. It is solely in the interests of public health and of the visitors to and residents in Brighton we have interposed. It is indispensable to the comfort of the metropolitan population that Brighton should be placed in a satisfactory condition as regards its sewerage. No other locality can well be substituted for it as a popular sojourn, considering its proximity to the metropolis, but at the same time it is manifest that unless perfectly notorious defects in the sewage disposal of the town and neighbourhood are removed, Brighton must, and will assuredly, be avoided, let the Corporation resent plain truth-speaking as vehemently as it may. If the authorities of Brighton are well advised they will take the report we now publish into very serious consideration, and, before expending large sums of money on works which besides being costly may prove ineffectual, endeavour to arrive at a sound conclusion as to what it is best to do, not only in the interests of the resident population, but of that large class of visitors who regard this particular watering-place as the one accessible and attractive resort.

THE BRITISH MEDICAL ASSOCIATION.

THE meeting of the British Medical Association, which takes place at Worcester next week, under the presidency of Dr. W. Strange, is one of especial interest from the fact that it is the fiftieth anniversary of the Association, which is to be celebrated in the same city that saw its inauguration by Sir Charles Hastings. Doubtless many references will be made in the course of the week to the growth of this important Association from the small "provincial" body of 1832 to the present large and influential organisation, with its numerous branches. The programme of the meeting contains promise of good scientific work. There are no fewer than eight sections—viz., Medicine, Surgery, Obstetric Medicine, Public Medicine, Anatomy and Physiology, Pathology, Ophthalmology, and Otology; and in almost all of them one or more special debates have been arranged upon subjects of particular interest. The session may be said to open on Tuesday afternoon, the 8th inst., with service in the cathedral and a sermon by the Dean of Worcester. In the evening, at the Assembly Rooms, Guildhall, the opening general meeting will take place, when the president's address will be delivered, the annual report of the Council presented, and other business transacted. Notices of motion of two resolutions affecting alteration in the by-laws have been given: one by Dr. Milner Fothergill, limiting the term of office of editor of the *Journal* to five years, but eligible for extension to a like period; and the other by Dr. Ward Cousins, to the effect that the President of the Association shall be *ex officio* member of the General and Finance Committee, and providing for the annual retirement of four of the elected members of that Committee, who shall remain ineligible for re-election for two years. This resolution will be seconded by Dr. Grigg, and as it has a rather important constitutional bearing, it is

likely to give rise to some discussion. On the morning of the 9th, after the second general meeting, the address in Medicine will be delivered by Dr. Wade of Birmingham. A luncheon will follow, to be given to 500 members, by the Worcester and Hereford Branch, after which a bust of Sir Charles Hastings will be presented to the Mayor and Corporation of Worcester. The Sections meet at 3 o'clock, and sit for two hours and a half, and in the evening there will be a special service in the cathedral, at which Haydn's "Creation" will be performed by the Philharmonic Society, assisted by members of the Worcester, Gloucester, and Hereford choirs. On Thursday, the 10th, at the third general meeting, the reports of committees will be presented, and the address in Surgery delivered by Dr. William Stokes, of Dublin. The annual dinner will take place the same evening. On Friday, the 11th, the sections will meet in the forenoon, and the concluding general meeting is to be held. A garden party will be given in the afternoon at Madresfield Court, Great Malvern, by the Lord-Lieutenant and the Countess Beauchamp, the proceedings terminating by a *soirée* given by the President and G. W. Hastings, Esq., M.P. Excursions to the Malvern Hills, the Wye, Stratford-on-Avon, and the Severn, have been planned for Saturday, the 12th.

ARMY MEDICAL SCHOOL.

THE forty-fourth term of the School ended on Wednesday, when fifteen surgeons on probation for the British Army, and eight for H.M. Indian Army, were declared qualified to exercise commissions in their respective services. The Military Commandant of Netley, Colonel Sir Charles Pearson, K.C.M.G., Colonel Farmar, the Director-General of the Department of the Army, Sir Joseph Fayrer, K.C.S.I., the Professors of the Army Medical School, and the whole of the medical staff of the hospital, and other officers and gentlemen, were present. Surgeon-General Longmore, C.B., read the reports of the session addressed to the Director-General for transmission to the Secretaries of State for War and India, with the names of the successful competitors for the various prizes published in another column, as well as those who had won honourable mention by their zeal and attention to the special studies of the place. The Director-General then presented the prizes, and addressed the gentlemen about to leave the School to enter on their career in their respective services. Dr. Crawford expressed regret at the absence of Sir Ralph Thompson, K.C.B., Permanent Under-Secretary for War, who was to have represented the War Office on the occasion, but who was detained in London by the pressure of his official duties in connexion with the expedition to Egypt. The Director-General, in graceful and hearty terms, congratulated the prize winners on the honours they had gained, and congratulated them all on having passed successfully their final examinations. Dwelling on the responsible and arduous nature of the duties of army medical officers, the Director-General pressed on their attention the responsibilities of their position in regard not only to the State, but to the soldier who is thrown on their hands in his hour of need without appeal. With great earnestness Dr. Crawford urged them never to delegate to irresponsible assistants duties that should be performed by themselves. He expressed the high opinion he entertained of the great value to the State of the Army Medical School, and congratulated the gentlemen before him on having had the advantage, unknown to officers of his standing, of acquiring knowledge special to their calling under its professors. The Director-General concluded by wishing the young medical officers a useful and honourable career in their respective services. Sir Joseph Fayrer added a few words of congratulation, and the proceedings terminated. The company were entertained at luncheon in the handsome mess-room of the medical staff. The visitors saw Netley to great advantage. The day was beautiful. The corridors of the hospital and the wards, under the skilful hands of Surgeon-Major Dobson, were gay with flowers, as were the parterres about the mess-house; and to add to the beauty of the scene the yachts of the Royal Southern Yacht Club, competing for the annual regatta prizes, twice passed the hospital under full sail.

"DOCTOR" AND "CHAPLAIN."

IT is much to be regretted when doctor and chaplain of a public institution do not agree. Generally they do; but the state of amity which exists is probably, in a majority of instances, due to concessions made by the former. This is not right; and we are glad to see that, in one case at least, the medical superintendent of an infirmary has had the moral courage to make a stand, and that a board of guardians has shown excellent good sense in enforcing his authority. We yield place to none in respect for the official character and work of ministers of religion generally, and would not be supposed desirous, or even willing, to under-rate the value of the services they render to suffering and distressed humanity in hospitals and infirmaries; but it should be clearly understood that the ministrations of the chaplain must on no account be allowed to interfere with the functions of the doctor or his assistants, or with the patients' meals. We have known instances in which the chaplain of an infirmary has shown such bad taste as to obtrude his presence in the wards during the time of medical attendance. In such a case he should be required to leave and prohibited from returning. If he declines to retire he is not fit for his post, and ought to be removed—from the ward and from the chaplaincy. Again, we have known chaplains who have persisted in troubling the patients with their presence and functions at times when they ought to have been quietly enjoying their meals or repose. This, again, should be peremptorily interdicted. Medical men ought to show themselves equal to the emergency, and without needless discourtesy protect their own rights and those of their patients from overbearing or thoughtless interference.

MOUNTAINEERING AS EXERCISE.

MOUNTAINEERING is doubtless excellent exercise for the nervously strong and the muscular, but it is unfortunate that it should be the pastime of the very class of persons least well-fitted for its pursuit. Those who lead habitually intellectual and, to a large extent, sedentary lives, incur great peril of injury and accident when they resort to this arduous and altogether exceptional form of exercise in their annual holiday. They may be steady of nerve and clear-headed, strong of wind and limb; but the strain is too severe, and the overtaxed faculties of sense and power may, at any moment, give way suddenly, when life will be jeopardised or sacrificed. Members of our own profession need a word of caution in respect to the way they spend their hardly earned vacation. We do not think that, as a class, they are particularly addicted to the climbing of mountains, but there are some who forget that unaccustomed *labour* of any kind, although it may be performed impulsively and perhaps with seeming ease—because there is for the moment some reserve of force on hand—is not safe work. A breakdown must reasonably be expected, and it is not prudent to venture life or limb on the hazard. Mountaineering, like everything else, requires long and continuous practice to make it an exercise which can be reasonably reckoned as salutary and within the bounds of a sound discretion. It is too laborious, too exacting to the sense-organs, and too severely exhausting to all the powers of life and energy, to be undertaken

without more than a mere feeling of courage and power, which may be misleading. The mountaineer should be always in training, or he should only attempt such climbing as calls for no particular expenditure of nerve or muscle force, and involves no extraordinary risk.

THE EGYPTIAN EXPEDITION.

PREPARATIONS for the medical services of the campaign in Egypt have been unremittingly pushed on by the War Office authorities during the past week. The equipment of the field hospitals and bearer companies has been collected at the Woolwich Arsenal, under the superintendence of the Brigade-Surgeon in charge and the quartermaster of the Army Hospital Corps; the non-commissioned officers and men detailed for each hospital and company have been mobilised at Aldershot, so that as soon as the Admiralty provide transport the remaining seven field hospitals can embark at a few hours' notice. Between eight and nine hundred men of the Army Hospital Corps are required for the expedition, and of these six hundred have already joined the depôt at Aldershot. The Peninsular and Oriental Company have placed the steamship *Carthage* at the disposal of Government, and she has been selected as the principal hospital ship. She has been fitted out to carry two hundred and twenty sick and convalescents, and when full will proceed to one of the general hospitals at Cyprus or Gozo to discharge her invalids, and return to Egypt for a fresh instalment. Brigade Surgeon H. Fergusson has been selected for her medical charge, with a staff of medical officers, an officer of orderlies (Captain Joseph), and four nursing sisters. Every attention has been paid in fitting the hospital to the requirements of the sick; ice houses are provided; and she will be liberally supplied with medical and surgical stores. The *Carthage* sails on the 9th. The steamship *Courland* has been detailed by the Admiralty for an additional hospital ship, and will be fitted in a similar manner to the *Carthage*, though on a smaller scale. Deputy Surgeon-General J. Lamprey is under orders for Cyprus to supervise the medical arrangements of the island, which, as a base of operations, will have allotted to it a general hospital of four hundred beds. The steamships *Pelican* and *Marathon* have been selected by the Admiralty to take out the 1st Bearer Company, and Nos. 2 and 3 Field Hospitals, leaving Portsmouth on the 5th. The principal medical officer, Surgeon-General Hanbury, C.B., and his staff, proceed in the *Capella* from Liverpool on the 6th.

CEREBRAL LOCALISATION.

IN the *Medical News* Dr. H. J. Berkley publishes an interesting case bearing upon the question of cerebral localisation. The patient was a gentleman, aged seventy-three, who had suffered for many years from mitral and aortic disease. About two years and a half before his death he was suddenly seized with a twitching of the left angle of the mouth, apparently limited to the zygomatic muscles; it was unattended with unconsciousness, or other symptom of cerebral disturbance, and continued unaltered to the time of his death. At the autopsy the cerebral membranes were healthy, the cerebral arteries were atheromatous to their smallest visible branches; no embolism or rupture was found. The convolutions were very intricate; "on the ascending frontal convolution of the right side, one and a half inches above the margin of the Sylvian fissure, in a location corresponding to the seventh centre of Ferrier, a nodule of calcareous degeneration was found of nearly circular shape, three-sixteenths of an inch from side to side, and of a corresponding diameter from above downwards. The depth was very slight, certainly not greater than half of the thickness of the cortical grey matter." The remainder of the brain was healthy. Dr. Berkley suggests that the lesion was an arterial occlusion, probably embolic, which underwent calcification. The case is of very great value, as the lesion was of minimum size, was unaccompanied by any other cerebral lesions, and was the cause of distinct and well-defined motor disturbance.

JAMAICA MEDICAL SERVICE.

WE have recently referred to the deplorable state of the Government Medical Service in Demerara. The facts in relation to the same service in the island of Jamaica are, if anything, still more disgraceful, and we feel bound to call attention to them, both to warn the younger members of the profession against accepting appointments in the service, and in the hope that our remarks may lead someone in authority to investigate the matter and attempt to correct the evil. There are forty-eight medical districts in the island, each of which has one medical officer appointed to it; the salaries range from £150 to £200, and one of the great grievances is that during leave of absence, even when this is necessitated by overwork and disease brought on by the climate, only half of this paltry pay is granted. There are also complaints as to personal injustice, favouritism, and irregular promotion—offences which perhaps more than any others cause ill feelings in the service. During the last thirteen years no fewer than sixty-nine men have passed out of the service. Of this number twenty-two have died, nine have been dismissed, and thirty-eight have resigned their appointments (nine of these resignations have been compulsory), while only four have been pensioned. Such a state of things calls for redress in the interest of the colony quite as much as in that of the medical profession. These colonial appointments offer certain temptations—we cannot call them attractions—to many young men, but the real prospect they offer is gloomy in the extreme—hard work ill requited! Our earnest advice to those who may contemplate offering their services to this colony is that of *Punch* to those about to marry, "*Don't!*"

DEATH CERTIFICATES AT GUY'S HOSPITAL.

THE recently completed inquest in Southwark on newly-born children whose mothers had been attended in childbed by students at Guy's Hospital has probably served a useful purpose in once more calling attention to the unsatisfactory state of the law respecting the registration of uncertified causes of death. We have to thank the medical authorities at Guy's Hospital for having been the unwilling and unintentional cause of the reventilation of this old-standing defect of the law. It is difficult to account for the objectionable and highly injudicious practice of the medical staff at Guy's in giving medical certificates of the cause of death of infants they had not even seen, on the mere information of the students. The inquest does not appear to have elicited the real object of giving these certificates. It is possible that there may have been some local opposition to the employment of the students in maternity cases on account of their inability to give a legal certificate in case of the death of the infant. The inquest will probably have the effect of securing in future the attendance of a duly qualified and registered member of Guy's medical staff in all cases which take a serious turn either for the mother or the child. In maternity societies there is too frequently a tendency not to insist rigidly enough upon a precise report as to the fate or health of the child at the termination of each maternity case. The influence of a well-conducted maternity society upon infant mortality, and the great importance of thoroughly trustworthy statistics of infant mortality in the first few weeks of life, which these societies could and ought to furnish, are

far too often lost sight of. The present record of infant mortality of most maternity societies is simply worthless. The Registrar-General's letter to the coroner on the facts brought to light at the inquest, in which he avows his helplessness in the matter, is a simple statement of the present condition of registration law, and, as the coroner remarked, leaves us precisely where we were before. In the present unsatisfactory state of the law lies the whole gist of the matter. Although we have no satisfactory statistics on the subject, we know that a large number of maternity cases are solely attended by midwives. We know that but a very small proportion of midwives are certificated or really qualified, and also that at present there is no system for registering midwives. Now all the deaths of infants born alive in midwifery cases so attended must be registered, and can only be registered as uncertified, and without any satisfactory evidence of the cause of death. What is still more objectionable, these midwives have the power of certifying (in cases where no registered medical practitioner has been in attendance) the infants as still-born. The effect of this laxity of legislation upon early infant mortality, and its statistics, is fast becoming a burning question, which far outweighs in importance the local question of the due superintendence of midwifery cases attended by the students at Guy's Hospital.

THE "ASYLUM POPULATION" AND THE "INSANE."

THE two terms are not synonymous. Although every inmate of an asylum for lunatics must needs be "certified," it does not, by any means, follow that every member of the asylum population is insane. Some have recovered and are simply drifting on because no one is specially interested to get them out. Others may have been sent in under misapprehension as to the real nature of their cases, which are, perhaps, the results of some temporary physico-mental excitement. Again, there are many who never were, and never will be, anything more than a little "queer." We are glad to see that in certain parochial districts attention is beginning to be aroused to the policy of instituting a detailed inquiry as to the *present* condition of the many paupers who have from time to time been sent into the county asylum, and who are practically forgotten. By an investigation of this nature, in some unions at least, the rates might be sensibly reduced, and the enormous demands every now and again made for money to build colossal asylums would be rendered unnecessary.

TWO NEW ANTISEPTICS.

M. G. LE BON has just presented to the Academy of Sciences two new and very effective antiseptics, the glyceroborate of calcium and the glyceroborate of sodium. Both of these compounds have the advantages of being very soluble, destitute of odour, and free from all toxic action. When exposed to the air they both deliquesce with great rapidity, absorbing from the air an equivalent weight of moisture. Both alcohol and water dissolve twice their own weight of these salts. They are powerful antiseptic agents even in very dilute solution; the most effective in a therapeutic point of view appears to be the calcic salt. It is absolutely innocuous, and it can be applied in strong solution to so delicate an organ as the eye without bad results. In a hygienic sense both can be employed with advantage as disinfectants and as preservers of meat and other alimentary products. M. le Bon has transmitted meat simply coated with a varnish of the glyceroborate to La Plata, and it has arrived in a perfectly fresh and sound condition. He thinks both salts will prove very useful as antiseptics in Lister's mode of dressing wounds.

HOSPITAL SATURDAY.

THE position and claims of Hospital Saturday are well set forth in an address by Mr. Sampson Gamgee on the subject, delivered lately before the Birmingham Medical Institute. Mr. Gamgee shows the importance of engaging the interest of the working-classes in the anxieties and responsibilities of hospital administration. He recommends for this end the representation of these classes on hospital committees. In principle we are very much inclined to agree with Mr. Gamgee. We are persuaded that these classes have only to display in the metropolis the same energy in the cause of hospitals which they have displayed in Birmingham to secure a reasonable representation on hospital committees. Mr. Gamgee reckons that the contributions of the working-classes in Birmingham to hospitals have grown from *nil* up to something like £8000 a year, if we include registration fees, provident payments, &c.

URETHRAL DIVERTICULA IN THE FEMALE.

AT the recent annual meeting of the Maine Medical Association Dr. Gerrish related a case which had occasioned him considerable difficulty. He was called upon to catheterise a patient after a difficult labour. After prolonged and fruitless efforts to pass the catheter, which he thought was prevented by "spasm," he etherised the patient, but even then could not succeed. Another practitioner was then called in, who tried for half an hour without success. It was then discovered that the urethra made a rather sharp turn in its course, and that a diverticulum passed off from each side of it, one two inches, the other one inch in length. The woman had never had a catheter used before. Subsequently there was no difficulty in entering either diverticulum or the bladder at will. The report of the case leaves us to assume that these "diverticula" were not made during the hour's fruitless attempts at catheterism!

DANGEROUS DRUGS IN THE HOUSE.

WE have repeatedly protested against the use of powerful and even poisonous drugs by unprofessional persons. We must go further, and warn those of the public who may be within our reach of the danger of having dangerous drugs in their keeping. A recent case of death from chloroform taken to relieve the toothache points this moral very painfully. It is a most distressing thing to be unable to obtain relief promptly in the moment of agony; but certainly no one who is suffering severely is in a condition to be trusted with a dangerous drug. Better put the perilous remedy out of reach. It is a grave mistake to keep chloroform, opium, and chlorodyne in any house, even though they are kept under lock and key. In a moment of maddening pain a sufferer forgets everything but the fact that ease can be obtained by recourse to a particular drug, and takes it recklessly, it may be with a dire result.

THE RIBERI PRIZE.

Is there no Englishman who will try for the "Prix Riberi?" The prize is 20,000 francs, or about £600, and will be given by the Academy of Medicine of Turin in 1886, for the best embryological researches advancing our knowledge of the anatomy, physiology, and pathology of man. The essay must be legibly written or printed in Italian, French, or Latin. It must be published subsequently to 1881, and two copies must be sent free of expense to the Academy. The Academy will preserve the original, but the author may have copies at his own expense. If the prize is given to a manuscript, it will have to be printed and duplicate copies sent to the Academy before the prize is awarded.

THE FUNCTION OF THE INTESTINAL JUICE.

PROFESSOR DANA of New York has recently been experimenting on the function of the succus entericus. His mode of procedure was to open the abdomen of an etherised animal, to ligature each end of a loop of ileum one to two feet long, then wash out this loop of intestine, inject albumen, fat, or starch, return the intestine, close the wound in the abdominal wall, and examine the contents of the intestine after four or six hours. He found that the intestinal juice had the power of converting coagulated white of egg into peptone, and hydrated starch into sugar. He failed to get any evidence of its power of digesting fats.

EXCISION OF THE TONGUE.

MR. CROLY, of Dublin, performs the following operation for cancer of the tongue, even when the disease is situated in the anterior portion of the organ. He first ligatures each lingual artery close to the hyoid bone, through a curved incision reaching from the symphysis down to the hyoid bone, and up and back to the angle of the jaw. Through these incisions he withdraws the tongue, as in Regnoli's operation, and removes the requisite amount of it by the benzoline cautery. Lastly, he divides the gustatory nerve where it lies along the inner border of the jaw-bone.

DR. A. J. FULLER, of Bath, U.S., reports a case of ascites which was tapped no less than forty-three times within a period of one year and three-quarters. The total quantity of fluid removed at the several operations was 1420 pints. The patient, a married lady, aged sixty-five, died a fortnight after the last operation.

DR. GAILLARD THOMAS has, it is stated, consented to resume his occupancy of the chair of Gynecology at the College of Physicians and Surgeons, New York, with Dr. Charles S. Ward as chief clinical assistant.

THE Irish College of Physicians is about to make arrangements for granting certificates in Sanitary Science to licentiates of the College. The fee is fixed at five guineas, not returnable in case of rejection.

A TOMBSTONE has, we are informed, been placed in Walmer churchyard over the grave of the late Fleet Surgeon William Anderson, by subscription amongst the officers of the Royal Navy and Royal Marines.

DR. DAVID W. CHEEVER has been nominated to the Professorship of Surgery in the Harvard Medical School, rendered vacant by the resignation of Dr. Henry J. Bigelow.

AN outbreak of typhoid fever has occurred at Bangor, and is, we hear, being investigated by the medical department of the Local Government Board.

WE regret to hear that Dr. M'Ewen, J.P. for Chester, has been stricken with paralysis, and remains in a precarious condition.

MR. THOMAS COLLINS has been re-elected a representative on the General Medical Council for the Apothecaries' Hall of Ireland.

A PROJECT of law making vaccination compulsory has been rejected by the vote of the Swiss people.

MR. C. G. WHEELHOUSE will preside at a meeting of the Fellows of the College of Surgeons of England, to be held at the Guildhall, Worcester, on Wednesday next, to consider matters affecting the interests of the Fellows generally.

REPORT
ON THE
BRIGHTON SEWERAGE.

BY J. BAILEY-DENTON, C.E.

IN compliance with the request of the Editor of THE LANCET that I should examine the present condition of the sewerage system of Brighton with special reference to the ventilation of the sewers, I have visited that town, and having had the advantage of reading Sir Joseph Bazalgette's report of June 27th, as well as receiving certain explanations from Mr. Lockwood and his assistant Mr. Palmer, I beg to submit the following observations.

I should state, prefatorily, that in the year 1875 I was called in by the sanitary authority of Hove to advise on their general system of internal sewerage, which is so far connected with the Brighton system as to be dependent for discharge upon the same outfall sewer as that provided for Brighton, and which is known as "Sir John Hawkshaw's intercepting outfall sewer." It had been completed about eighteen months.

The investigation I then made led me to form a judgment on that important work which my recent examination has confirmed, and, as I believe that the evils pointed out in THE LANCET on behalf of the residents and visitors to Brighton are greatly due to the defects appertaining to this intercepting sewer and its influence upon the internal sewers of both Brighton and Hove, I think it right to cite an extract from a lecture I gave before the School of Military Engineering at Chatham in the year following my investigations at Hove. I then stated that Brighton might be taken as an illustration of the evils arising from the impounding of sewage in the main sewers of seaside places.

I stated that "a visitor standing on the cliff at the ebb of the tide may see the sewage pouring from the outlet and marking its own passage through the sea for a considerable distance; and if he takes a drive on the parade while the sewage is impounded, he may smell it, to his utter disgust. If an engineer desires to study what to avoid, and to see works which have been admirably carried out in themselves, he should visit the sewage-disposal works of Brighton." While the average death-rate "of healthy districts is 17 per 1000, that of Brighton frequently rises above 20" (first quarter of 1882, 29 per 1000); "and this excess is only to be explained by the character of its sewerage, the treatment of its sewage, and the overcrowding of dwellings; for the town possesses all the advantages due to a southern aspect, an open sea, and a wide reach of downs to shelter it from cold wind and to afford the means of healthful exercise.'

The grounds upon which I formed the judgment thus expressed, and which my subsequent visits to Brighton have confirmed, may be stated to be as follows.

1. The daily water-supply of Brighton and Hove, reckoned at from twenty-eight to thirty gallons per head, may be taken to be approximately 4,000,000 gallons, and this represents pretty nearly the measure of the sewage-proper discharged from the internal sewers into the intercepting sewer in twenty-four hours, irrespective of the subsoil water, which finds its way into certain sewers from the surrounding ground.

2. The total capacity (power of storage) of the intercepting outfall sewer between the tidal flaps at the Portobello outlet and the uppermost end at Hove closely approximates

8,000,000 gallons, the present storm overflows only coming into action when the sewer is practically full.

3. Twice in twenty-four hours—i.e., during the rise of each tide—the sewage of Brighton and Hove collects in this outfall sewer, and when such collection happens to take place during those hours of the day in which the water-supply is most largely used for domestic purposes, the quantity of sewage, diluted by subsoil water, is found to occupy as much as half the total storage space afforded by the sewer, leaving the remaining half as *air space*. In other words, the occupation of half the sewer by diluted sewage leaves room in the sewer for an equal quantity of surface waters (the rainfall), which, as they enter, will displace the air. The fact, which is striking, that during each tide in dry weather the diluted sewage collected in this sewer amounts to about 4,000,000 gallons, which is equal to the whole day's water-supply of Brighton and Hove, can only be explained by the leaky condition of the intercepting and, possibly, other sewers, which allows of the copious influx of subsoil water. Upon the only data I have been able to obtain in the time at command I am led to believe that the aggregate outflow from the intercepting sewer, without any increase due to the rainfall, may amount to at least three times the sewage proper, or above 12,000,000 gallons daily.

Sir Joseph Bazalgette says, in his report of June 27th:—"From the Steine to the outfall it (the intercepting sewer) is 7ft. in diameter, and it has an average fall of 3ft. in a mile, and this gives a mean velocity of flow of about 1¼ mile per hour when running half full. But in dry weather the rising tide closes the outfall for thirteen hours out of twenty-four, and thus the lower portion of the sewer becomes a reservoir and stores the sewage until the tide has again fallen below its level. From the observations recently made and furnished to me by Mr. Lockwood, it appears that the ordinary dry weather flow of sewage rises during the time the outfall is closed to a maximum height of three to four feet above the sewer invert at the Roedean furnace, and it reaches the maximum there at about three hours after high water; the tide has by that time fallen below its level, and it again falls to its normal condition."

When I visited the Roedean furnace, on Tuesday, the 4th of July, I learnt from the man in charge that the depth of sewage in the sewer was 3ft. 8in.

4. The whole of the rainfall, I am informed, is admitted from the surface into the sewers, and the extent of impervious surfaces (roads, streets, roofs, yards, pavements, &c.) within Brighton and Hove, which may be taken as tributary to the intercepting outfall sewer, will probably amount to 1200 acres, and as it only requires about one-seventh of an inch of rain to fill the "air space," when the maximum quantity of diluted sewage is in possession of half the sewer, the times must be numerous when the force by which the sewer air is expelled and driven up the side sewers is sufficient to convey it into dwellings within its reach.

5. That this expulsion of air by the rushing in of surface waters does take place with great force is proved by the fact, I have heard stated, that the trapped gullies placed in the road gutters have been known to yield to the pressure, and afford the escaping gases a passage through the traps into the open atmosphere.

6. The number of public and private sewers joining the intercepting outfall sewers are much more numerous in Hove than in Brighton, and as there is a tendency in all sewer gases and organic vapours to collect in the higher portions of sewers, these lateral sewers become the outlets for more than their share of the foul air collected in the outfall sewer. This is made manifest by the circumstance that the Roedean furnace, which draws the sewer air in a direction contrary to its natural course, does not affect the outfall sewer much beyond the Steine.

7. The lateral sewers, up which the pent-up air for the most part escapes, having very rapid inclinations (rising in fact in some instances with gradients of 1 foot in 12 feet), serve as shafts to ventilate the main outfall at the expense of the streets in which they exist and of those dwellings which may not have been perfectly disconnected from them. This assumption is based upon an experience which permits me to assert without fear of contradiction that there are few dwellings (which have not been specially treated with regard to internal sanitation) of which the traps in use will not yield to extra pressure, particularly where the heat, maintained within the houses themselves, exerts an inductive influence. I have reason to believe that the sanitary authorities of both Brighton and Hove require the private sewers connecting new houses with the public sewers to have inserted in them a syphon or a dip trap; but neither of these expedients without the admission of fresh air into the house sewer is sufficient to prevent the intrusion of sewer air under the conditions I have pointed out.

This exposition of facts, rather than opinions, will I trust serve to show that no amount of money expended in palliations such as those recommended by Sir Joseph Bazalgette will render the sewerage of Brighton what it ought to be. As a health resort Brighton is often frequented by invalids, who are especially sensitive of bad smells; and unless the sewers have a constant discharge, associated with a perfect system of sewer ventilation, the present evils will be maintained.

The facts stated, without any personal bias, afford evidence that THE LANCET was justified in declaring that the sewerage of Brighton and Hove was *radically defective*, in spite of the efforts made of late years to minimise existing evils which could not readily be removed.

I do not understand that it is either the duty or the intention of THE LANCET to point out how existing evils may be removed; how, in fact, a constant flow and discharge of the sewage may be effected, and the detention of foul matters to give off sewer gases avoided; how the separation of surface waters from the sewage may be secured; or how the sewers may be economically ventilated and the escape of deleterious gases and bad smells prevented.

In 1875–6, after advising at Hove, I stated publicly that "sooner or later there will be provided for the sewage of this important metropolitan watering-place (Brighton) a constant means of discharge by the application of steam power to raise and dispose of it above tidal influences"; and seeing that the present complaints are due to the conversion of an outfall sewer, which should act simply as a means of free discharge, into a reservoir of decomposing sewage and a container of effluvium and vapour extending along the leading thoroughfare from the extreme end of Kemp Town in Brighton to the extreme end of Cliftonville, in Hove, I can only, after my renewed examination, reiterate the conviction. I do so with increased earnestness, because the cost of lifting the sewage the necessary height to override the highest tide can be effected as a supplement to existing arrangements (after the partial separation of surface waters from the sewage) with comparative economy. If these two objects were carried out the question of ventilation would be simplified. Though the objectionable smells from manholes and gullies might still exist in places, all danger attending sewage decomposition would vanish, inasmuch as with a discharge at the outlet, independently of the tide, the rapid flow of the sewage, due to the rapid inclination of the internal sewers, there would be no detention nor any perceptible deposit in the outfall sewer. Such ventilation as would still be required might then be applied, without difficulty or any great expense, by the provision of shafts at the head of selected sewers, and by carrying pipes of sufficient size directly from such sewers to the top of houses. This might involve the purchase by the authority of certain houses for the purpose, without any great sacrifice of either money or appearance.

I think it only necessary to add that whilst concurring in much that Sir Joseph Bazalgette has advanced, I view with great misgiving his suggestion of a storm overflow at Roedean, to be constructed *on a level with the invert of the intercepting outfall sewer*, and additional storm outlets at Hove, as I am strongly of opinion that by the adoption of such a suggestion the advantage gained in freeing the shore of sewage pollution by extending the outfall sewer to Portobello would be lost to a great extent, and that the reputation of Brighton as a sea-bathing place would greatly suffer.

In a word, I would summarise what I have said by repeating that so long as Brighton remains with a tide-locked sewer extending along the whole length of its frontage to

receive surface waters as well as sewage, without making an effort to prevent their detention, there will be cause for the strictures made by THE LANCET on the sewerage of Brighton.

22, Whitehall-place, London, S.W., July, 1882.

WILLS AND BEQUESTS.

THE will of Mr. Edward Greatrex, Surgeon-Major, half-pay, Coldstream Guards, of Torriano-villas, Broadstairs, Kent, who died on June 1st last, was proved on the 20th ult. by Mrs. Sarah Jane Greatrex, the widow and sole executrix, the value of the personal estate exceeding £3500. The testator gives and appoints all his real and personal estate to his wife absolutely.

The will of Mr. Adam Taylor, Surgeon-Major, Bengal Military Service, formerly of 53, Warwick-road, Maida-hill, but late of Delhi, who died on October 21st last, was proved on the 22nd ult. by Mrs. Alice Johnston Taylor, the widow and acting executrix, the value of the personal estate exceeding £4300. The testator leaves £500 and all his furniture, plate, and household effects to his wife; and the residue of his real and personal estate upon trust for her for life, or until she shall marry again, and then for his issue as she shall by deed or will appoint.

The will of Tertius Ball, M.D., of 8, Bruce-grove, Tottenham, who died on the 2nd ult., was proved on the 25th ult. by the Rev. Charles Richard Ball, the brother and sole executor, the value of the personal estate being over £12,000. The testator gives to his wife, Mrs. Sophia Augusta Ball, in addition to some specific bequests, furniture and effects to the value of £250, a cash legacy of £450, and an annuity of £350; to his brother Charles Richard, his house in Bruce-grove; to his sisters Hannah Mary and Susan Helen, his freehold property in Shropshire and the residue of his real estate; and there are legacies, pecuniary and specific, to his own and his wife's relatives, servants, and others. The residue of the personalty he leaves to his brothers Alfred William and Charles Richard.

The will of Dr. Thomas Bevill Peacock, Honorary Consulting Physician to St. Thomas's Hospital, late of 20, Finsbury-circus, who died at St. Thomas's Hospital on May 30th last, has been proved by Mrs. Maria Tucker, the sister, the value of the personal estate amounting to £18,000. The testator leaves all his medical books and surgical instruments and £100 to the City of London Hospital for Diseases of the Chest; and the residue of his property to his next of kin, according to the statute for the distribution of an intestate's effects.

The following legacies have recently been left to hospitals and other medical charities:—Mrs. Mary Sarah Burd, of 36, Connaught-square, Hyde-park, the residue of her personal estate, including the reversion to two sums of £5300 and £5800 Government stock, on the respective deaths of her sisters, Mrs. Clutterbuck and Mrs. Olive, to St. Mary's Hospital, Paddington, and St. George's Hospital, Hyde-park-corner. — Miss Elizabeth Baxter, formerly of Old Broad-street, but late of 309, Oxford-street, £1000 to St. Bartholomew's Hospital and £500 each to the Consumption Hospital, Brompton, and St. Mary's Hospital, Paddington.

DISTRIBUTION OF THE HOSPITAL SUNDAY FUND.

A MEETING of the Council of the Hospital Sunday Fund was held at the Mansion-house on Wednesday. The Lord Mayor presided, and there were present, among others, Bishop Beckles, Alderman Sir Sydney H. Waterlow, M.P., Mr. Alderman M'Arthur, M.P., Sir E. H. Currie, Mr. Thomson Hankey, Rev. Canon Nisbet, Mr. Coope, M.P., Dr. Wakley, Dr. Glover, Mr. J. H. Buxton, Mr. R. Moreland, Mr. J. G. Pitcairn, Rev. Dr. Finch, Rev. A. A. Harland, Rev. R. S. Simpson, and Mr. H. N. Custance, the secretary. The committee of distribution submitted their report of the several awards they recommended for payment this year to 145 institutions, showing an increase of five since last year, and of forty since the establishment of the fund in 1873. Four per cent. of the total amount of the collections (£1380) was ordered to be set aside this year for the purchase of surgical appliances. The cash received to July 18th amounted to £34,424 12s. 2d. After payment of the sum of £1380 for surgical appliances, and allowing sufficiently for liabilities and for the usual current expenses, the amount available for distribution was £32,415 13s. 9d. Of that, £28,446 15s. was now recommended to 93 hospitals, including four institutions which may be classed as hospitals; and £2588 18s. 9d. to 52 dispensaries. They also recommended that all payments to the fund after that date be carried to the credit of next year's fund. In compliance with the order of the Council, and for the special use of its members, tables have been prepared as usual, showing a statistical analysis of the number of beds in hospitals, the cost of patients both in hospitals and at dispensaries, the proportionate expenses of management, as well as other valuable information. The committee had great satisfaction in reporting that the number of deputations invited to confer with them, and to offer explanations on matters of apparently unsatisfactory character, was gradually diminishing. Seven invitations were issued this year, as compared with eleven in 1881. Of that number three sent letters in reply, from two no answers were received, and two hospitals sent deputations.

Sir SYDNEY WATERLOW, M.P., in moving that the report of the Committee of Distribution be approved, and the several awards recommended be paid as soon as possible, congratulated the public that the result of the collection this year had been the receipt of the largest aggregate sum ever yet sent in. It was now nine years since the fund was started, and, like most enterprises, it had had its trials and difficulties, but they had all been amicably and successfully overcome. The greatest possible care had been taken to distribute the Fund according to the comparative needs and merits of the institutions; and he believed that not only the public, but even the managers of the hospitals themselves, had been satisfied with the awards. He added that it should be understood that the great endowed hospitals, such as St. Bartholomew's, Guy's, and St. Thomas's, did not participate in the Fund, but that the whole sum was distributed among institutions which for the most part were entirely dependent on the voluntary contributions of the public. The Fund, moreover, was collected and distributed at the very lowest percentage of cost.

Sir E. H. CURRIE seconded and Dr. GLOVER supported the motion, and it was adopted unanimously.

On the motion of the Rev. Dr. KENNEDY, seconded by Mr. COOPE, M.P., thanks were conveyed to the Committee of Distribution, and at the instance of Sir Sydney Waterlow, M.P., the Council thanked the Lord Mayor (Sir John Ellis) for the zeal and energy by which he, as president and treasurer, had succeeded in securing to the Fund the largest amount that had, as yet, been collected in any one year.

The LORD MAYOR acknowledged the compliment, and the meeting separated.

NOTIFICATION OF INFECTIOUS DISEASES.

AT a meeting of the medical profession of Sheffield and the neighbourhood, held at Sheffield on August 1st, to consider Mr. Hastings' Bill relating to compulsory notification of infectious diseases, with Dr. de Bartolomé in the chair, and at which there were forty-one members of the profession present, the following resolutions were passed, with only three dissentients:—

1. "That this meeting views with entire disapprobation the proposal to compel medical men, without any discretionary power, to report cases of infectious disease to the sanitary authorities, feeling it to be an unwise interference with the relations in which medical men stand to their patients."

2. "That a petition embodying the views of the previous resolution be drawn up, signed, and presented through our members to the House of Commons and to the forthcoming meeting of the British Medical Association at Worcester; and that a deputation, consisting of the chairman, Mr. Favell, Dr. Keeling, Mr. Arthur Jackson, and Dr. Cleaver, wait upon the Mayor, to explain the views of the meeting."

An amendment, "That it is desirable, in the interests of

sanitary science, that Mr. Hastings' Bill become law," moved by Mr. Sykes, medical officer of health at Mexborough, found only three supporters, including the mover and seconder.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS TO THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Denbighshire Sanitary Districts.—Under Section 286 of the Public Health Act, 1875, the Local Government Board have power, subject to certain specified conditions, to unite sanitary districts lying either wholly or partially in the same county for the purposes of the appointment of a medical officer of health, and early in 1881 the Board's resident inspector for North Wales made the necessary representation required under that section to the effect that such a union of a number of districts comprised in the county of Denbigh was desirable. But before an order giving effect to their intention was issued by the Local Government Board a deputation of the sanitary authorities concerned urged that such a course was most undesirable, and hence, before proceeding further, the board instructed their medical inspector, Dr. Parsons, to report to them on the sanitary condition and administration of the districts concerned. As the result of this inquiry eight reports have been issued. 1. *Holywell Rural District:* Formerly five district medical officers held the posts of medical officers of health, but later on the district was divided between two officers, and the reports which have been prepared by them have, for a series of years, shown that they had made themselves well acquainted with the sanitary condition of their districts; but the advice which was based on this knowledge appears to have had but little effect, for sanitary neglect, which was reported to the Local Government Board in 1871 by Mr. W. H. Power to be rife in the district, remained much the same in 1881. There has evidently been great lack of progress in sanitary administration, and this has certainly not been, even in the main, due to circumstances which could not be overcome. 2. *St. Asaph Rural District:* Here, also, five district medical officers were originally appointed to take sanitary charge of their respective districts, but in 1873 Dr. J. Lloyd-Roberts, of Denbigh, was appointed to the entire district. He is reported to have made himself acquainted not only with the sanitary circumstances of the district, but to have taken much pains to fit himself for his duties by making himself fully acquainted with the principles of sanitary science. The result has been a large amount of sanitary activity both in the execution of public works and in the abatement of conditions causing nuisance, such abatement being not merely temporary, but of a permanent character. 3. *Abergele and Pensarn Urban District:* Dr. Lloyd-Roberts is also medical officer of health for this district, which has been sewered and is provided with a constant service of water. Scavenging is irregular, and the waterclosets are not so ventilated as to free them from nuisance. These and similar defects have, however, been properly brought under the notice of the sanitary authority. By-laws relating to several matters are in force within the district. 4. *Denbigh Urban District:* This district was formerly under Dr. Lloyd-Roberts' care, but he resigned office in 1878, and was succeeded by Mr. G. Roberts. This district consists of Denbigh town and of Henllan village. It was inspected in 1877 by Dr. Thorne Thorne, who wrote a report strongly condemnatory of the sanitary neglect which the Town Council allowed to prevail. Since then, although certain grave defects remain, some substantial sanitary action has been taken in Denbigh town, but the Corporation still leave Henllan the subject of gross nuisances. By-laws are not enforced; the present medical officer of health admits that he does not make any systematic inspection of his district; and of Henllan Dr. Parsons says: "A more neglected place as regards sanitary condition I have never seen." The Denbigh Town Council cannot be congratulated on the proper exercise of their sanitary functions. 5. *Ruthin Rural District:* The sanitary authority for this district in 1875 represented to the Local Government Board that it would conduce to efficient health administration if the sanitary districts in the county of Denbigh were placed under one medical officer of health, but when the board proposed to act on the representation they rescinded their resolution, and strongly opposed action being based on it. They then made first one and then another appointment, apparently uncertain how to act, and recently a new officer has been elected for the entire district. No special sanitary work has been done in the district; but it appears to be a scattered locality, and its sanitary wants are not of a glaring and urgent description. 6. *Ruthin Urban District:* Dr. Lloyd-Roberts is officer of health for this district. A new and an abundant water-supply has been brought in, a system of sewerage has been carried out, house drains appear to be, as a rule, well constructed, by-laws are in operation as to removal of filth, pig-keeping is fairly well regulated, and the district is in the main subject to an efficient sanitary administration. 7. *Corwen Rural District:* This district has been divided into three portions for the purposes of the post of medical officer of health, two of the officers appointed being Poor-law medical officers. It is said that but little has been done towards the abatement of nuisances on private property; overcrowding of the worst description was ascertained to exist; many houses are without any privy accommodation; and conditions dangerous to health, when reported to the sanitary authority by their officers, are at times "left for consideration." Garth Trevor is evidently suffering much from such inaction. 8. *Llangollen Urban District:* Mr. J. P. Drinkwater has for some years had sanitary charge of this district, and his reports, though not deemed to be patterns, yet show that he has been active in the discharge of his official duties. The sanitary authority have yet many improvements to effect, but they have been by no means unmindful of their duties, and they are stated to be specially careful to curtail the spread of those infectious diseases which are liable to be imported into a district having picturesque scenery and a consequent inflow of excursionists. Since the issue of these eight reports meetings have been held as to the question of the health officer appointments, but from the reports which we have received there does not seem to be any immediate prospect of a satisfactory settlement of the difficulty being arrived at.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Huddersfield.—We learn from Dr. J. S. Cameron's annual report for 1881, that the rate of mortality during the past year was the lowest on record since Huddersfield was incorporated in 1868; and this result is the more satisfactory because it has followed on a gradual diminution in the number of deaths during a series of years. The population in 1881 was 81,825, and the rate of mortality 20·3 per 1000. Amongst other sanitary advantages, Huddersfield possesses a hospital for infectious diseases, to which a new and excellently designed detached ward-building has recently been added, the need for extension having arisen together with an increasing appreciation on the part of the public of the advantage of isolation. For some five years past a system of compulsory notification of infectious diseases has also been in operation in the borough. At first, under an Act passed in 1876, medical men were required to give a written notice to the occupier, and this only when they regarded the accommodation as being inadequate for the treatment of infectious cases. The compulsory clauses in this form were not found to act satisfactorily, and hence, in 1880, fresh powers were sought by the Corporation, who still desired that the certificate filled in by the medical practitioner should be given by him to the occupier. But in Committee the clause was altered by the House of Lords so as to make the medical man responsible for the delivery of the certificate to the sanitary authority. Dr. Cameron regards the alteration as unfair towards the profession; but he explains that the plan has nevertheless worked well. Under the new clause all cases of infectious disease must be reported, irrespective of the means of isolation available; and Dr. Cameron has been informed by his medical colleagues that they find less difficulty in reporting now that the responsibility of deciding as to the quality of the accommodation no longer rests with them. The present system is stated to have "acted on the whole very smoothly," and not only are the certificates sent in with increasing promptitude, but, except in the case of "three or four" medical men, a number of optional ques-

tions at the foot of the notice are also answered. The effect has been greatly to extend the usefulness of the hospital for infectious diseases. From a table appended to the report we gather that out of 278 cases of small-pox, scarlet fever, and enteric fever which came under notice, all but 9 were duly certified under the Act, and as many as 164 cases were removed to hospital. The only disease in which any failure, as regards isolation, has occurred is scarlet fever, and the amount of accommodation available did not suffice for the isolation of all cases needing removal from their homes. This must for some years to come be expected in our large towns, where the poison of this disease lies hidden away in all portions of the districts concerned, ready to manifest itself directly a favourable occasion offers. But every case which is isolated will reduce the number of these hidden sources of infection, and the time may, we trust, soon come when even a reasonable number of beds provided by a sanitary authority will suffice for such isolation as is needed to protect the public against what may then be only occasional appearances of this now widely spread and fatal infection.

Carlisle Urban District.—In his report for 1881, Dr. Robert Elliot speaks generally as to the satisfactory sanitary condition of the city. He refers, however, to the fact that scarlet fever has for some time past been epidemic, 175 cases having been reported during the year. Out of 102 scarlet fever patients who remained in their own homes 29 died, whereas out of 73 who were removed to the city hospital for infectious diseases only 2 died. In view of this fact Dr. Elliot urges strongly that the compulsory notification of infectious diseases should become general, for under such a system alone can isolation on any comprehensive scale be carried out. The important work of providing for the efficient ventilation of the sewers is steadily in progress. In his efforts to secure this end Dr. Elliot has in the past met with much opposition from some who were evidently ignorant of the first principles relating to the subject. Now, however, the object for which he has contended is on the point of being attained, and we trust nothing will be allowed to frustrate its completion.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns, 5652 births and 3176 deaths were registered during the week ending the 29th ult. The annual death-rate in these towns, which had been equal to 19·2 and 19·0 in the two preceding weeks, rose again last week to 19·6. The lowest rates in these towns last week were 13·2 in Cardiff, 13·3 in Portsmouth and in Brighton, 15·1 in Bradford, and 15·6 in Wolverhampton. The rates in the other towns ranged upwards to 24·4 in Newcastle-upon-Tyne, 25·2 in Leicester, 25·6 in Huddersfield, and 28·9 in Sunderland. The deaths referred to the principal zymotic diseases in the twenty-eight towns were 635, showing a further increase of 66 upon recent weekly numbers; 299 resulted from diarrhœa, 107 from whooping-cough, 84 from scarlet fever, 83 from measles, 46 from "fever" (principally enteric), 12 from diphtheria, and 4 from small-pox. The lowest death-rates from these diseases occurred in Halifax, Bristol, and Bolton, and the highest in Leicester and Huddersfield. Whooping-cough caused the highest death-rates in Liverpool and Sunderland; measles in Huddersfield; scarlet fever in Hull; and "fever" in Derby and Newcastle-upon-Tyne. The deaths referred to diarrhœa last week in the twenty-eight towns, though still considerably below the average for the season, showed a further increase upon recent weekly numbers; the highest death-rates from this disease were recorded in Leeds and Leicester. Only two fatal cases of small-pox were recorded in London and its outer ring of suburban districts, 1 in Birmingham, and 1 in Leeds. The number of small-pox patients in the metropolitan asylum hospitals, which had declined in the thirteen preceding weeks from 350 to 193, further fell to 159 on Saturday last; only 10 new cases of small-pox were admitted to these hospitals during last week, against 30, 23, and 20 in the three previous weeks. The deaths referred to diseases of the respiratory organs in London, which had been 199 and 157 in the two preceding weeks, rose again to 183 last week, but were 1 below the corrected average number in the corresponding week of the last ten years. The causes of 74, or 2·3 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Plymouth, and three other towns; whereas the proportions of uncertified deaths were largest in Bristol, Leeds, Salford, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual death-rate in the eight Scotch towns, which had been equal to 21·3 and 21·7 per 1000 in the two preceding weeks, declined again to 21·3 in the week ending the 29th ult.; it exceeded, however, by 1·7 the mean rate last week in the twenty-eight large English towns. The deaths referred to the principal zymotic diseases in these Scotch towns were 111 last week, and within 2 of the number returned in the previous week; they included 64 from diarrhœa, 16 from whooping-cough, 13 from "fever," 7 from measles, 6 from scarlet fever, 5 from diphtheria, and not one from small-pox. The death-rate from these principal zymotic diseases averaged 4·7 per 1000 in the eight towns, and exceeded by 0·8 the mean rate from the same diseases in the large English towns. The 64 fatal cases of diarrhœa showed a further increase upon recent weekly numbers, and exceeded by no fewer than 25 the number returned in the corresponding week of last year; 39 occurred in Glasgow, 7 in Edinburgh (Dr. Littlejohn, however, only attributes 3 deaths to this cause), and 5 both in Dundee and Paisley. The annual death-rate from diarrhœa in the Scotch towns was again last week very considerably higher than that which prevailed in the English towns. The 16 deaths from whooping-cough, which included 9 in Glasgow and 3 in Aberdeen, corresponded with the number in the previous week. The 7 fatal cases of measles showed a marked decline from recent weekly numbers, but included 4 more in Dundee, against 9 in the previous week. The deaths referred to "fever," which had been but 7 in each of the two previous weeks, rose to 13 last week, of which 6 occurred in Glasgow, and 2 each in Paisley and Perth. All the 5 fatal cases of diphtheria, and 3 of the 6 of scarlet fever, were returned in Glasgow. The deaths referred to acute diseases of the lungs in the eight towns, which had been 95 and 80 in the two previous weeks, were 82 last week, and exceeded by nine the number attributed to these diseases in the corresponding week of last year.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which in the two preceding weeks had been 21·9 and 20·8 per 1000, declined again to 20·8 in the week ending the 29th ult. During the first four weeks of the current quarter the death-rate in the city averaged 20·0 per 1000, against 18·0 in London and 18·6 in Edinburgh. The 139 deaths in Dublin last week were 7 less than those returned in the preceding week, and included 5 which were referred to diarrhœa, 3 to measles, 3 to "fever," 1 to whooping-cough, and not one either to small-pox, scarlet fever, or diphtheria. Thus 12 deaths resulted from these principal zymotic diseases, against 9 and 8 in the two previous weeks; these 12 deaths were equal to an annual rate of but 1·8 per 1000, against 3·9 in London and 2·5 in Edinburgh. The fatal cases of diarrhœa, which in the two preceding weeks had been 5 and 7, declined again to 5 last week, and were considerably below the average for the season. The 3 deaths from measles exceeded the number returned in recent weeks, and the three fatal cases of "fever" raised the number recorded in the first four weeks of the current quarter to 11. The death referred to whooping-cough was the first registered since the end of April last. The deaths both of infants and elderly persons showed a considerable increase upon those returned in recent weeks. The causes of 15 or nearly 11 per cent. of the deaths in the week were uncertified.

A MEDICAL MISSIONARY FOR CENTRAL AFRICA.—A farewell service was held at St. Thomas's, Regent-street, on Tuesday last, to bid God speed to Dr. James Petrie, who has been selected by the Guild of St. Luke as the medical missionary for Central Africa. Dr. Petrie received his medical education at Aberdeen University, where he graduated M.B., M.Ch., in July last. The salary of this medical missionary is provided by the Guild of St. Luke—viz., £200 a year for three years.

THE SERVICES.

Surgeon Major de Fabeck, Bengal Army, has been appointed Sanitary Commissioner for Bengal, vice Surgeon Major Lidderdale.

Brigade Surgeon R. Wolseley succeeds Brigade Surgeon J. A. Marston as Secretary to Surgeon General Sir Anthony D. Home, V.C., K.C.B., Principal Medical Officer in India.

Deputy Surgeon General C. Smith, M.D., Madras Medical Service, has been appointed Principal Medical Officer of the Indian Contingent for service in Egypt.

Surgeon Major G. Macnalty has been appointed to the medical charge of the Station Hospital, Roorkee, N.W. Provinces, India, vice Surgeon Major Douglas, V.C., who is retiring from the service.

ARMY MEDICAL DEPARTMENT. — Director-General Sir William Muir Muir, M.D., K.C.B., has been granted a retired allowance, in addition to his good service pension; Surgeon Frederick Simon Young, half-pay, has been granted retired pay.

YEOMANRY CAVALRY. — Middlesex: Thomas William Thompson, Esq., late Surgeon, 1st Life Guards, to be Surgeon, vice J. S. Ferris, resigned.

RIFLE VOLUNTEERS.—2nd Glamorgan: Acting Surgeon John Lindsay Leckie to be Surgeon.—19th Lanarkshire (Liverpool Press Guard): James Booth Clarkson, Gent. (Medical Officer Inman Line), to be Lieutenant.—1st Linlithgowshire: Robert Kirk, M.D., to be Acting Surgeon.—2nd East Riding of Yorkshire: Acting Surgeon Charles Dansos, M.D., resigns his appointment; Arthur Henry Brassier, Gent, to be Acting Surgeon.

ADMIRALTY.—Fleet Surgeon John Black Nicoll, M.D., has been placed on the retired list of his rank.

The following appointment has been made: Surgeon George Despard Twigg to Chatham Division of the Royal Marines, vice Charles C. Godding.

Correspondence.

"Audi alteram partem."

"THE RIDER'S SPRAIN."

To the Editor of THE LANCET.

SIR,—The interesting communications from Mr. Morris and Dr. Henderson, in THE LANCET of July 29th, call the attention of surgeons to a very important, but not very common, kind of injury. It is doubtful whether the term "rider's sprain" could be applied to all these particular injuries. The following case might probably be classed under this heading; it was, however, clearly a case of complete rupture of the tendon of the adductor longus near its origin from the tubercle at the angle of the pubes.

W. C——, a gentleman aged forty-five years, was riding a young restive horse at the end of last year. The animal, being startled at something, plunged violently, causing the rider to grip the saddle suddenly and forcibly with his knees to prevent himself being unseated. He felt a violent pain at the upper and inner part of his right thigh; he was compelled to dismount at once and hobbled home with great difficulty. He was seen immediately by Dr. John Lloyd of Small Heath, who found a distinct depression, large enough to lay the thumb in, over the site of the tendon of the adductor longus muscle, with a contracted muscular belly below this sulcus. He diagnosed readily the nature of the injury, and applied a firm bandage from below upwards, with a spica about the groin. A few days afterwards a sharply defined triangular ecchymosis appeared, having its apex upwards at the pubes, and its base downwards and outwards, disappearing towards the middle of the thigh. After a few weeks' treatment the patient made a perfect recovery; a small swelling remained at the site of injury for many weeks.

The features presented in this case are quite in accordance with those known to be present in the other more frequently ruptured muscles—viz., the calf muscles, biceps humeri, and rectus femoris. It is noteworthy that all these muscles commonly yield at their rounded and tendinous portions—thus: the calf muscles at the tendo Achillis; the biceps at its tendinous origin from the glenoid cavity; the quadriceps just above or below the patella; and the adductor longus near to the pubes.

I am, Sir, your obedient servant,

JORDAN LLOYD, M.B., F.R.C.S. Eng.,
Casualty Surgeon to Queen's Hospital, Birmingham.

Broad-street, Birmingham, July 31st, 1882.

To the Editor of THE LANCET.

SIR,—Rider's sprain, according to Mr. Morris and Dr. Henderson, seems a much more common accident in civil than in military life. I can only remember three cases of rupture of the adductor longus muscle during a period of sixteen years in a cavalry regiment—once in England, in the rough-riding sergeant-major; the other two cases occurred in India. I cannot remember a case occurring amongst men in robust health and riding hard. I therefore think that the accident is due to want of muscular tonicity, and from the muscle in that state being suddenly called into violent action by the horse plunging forward when the rider is sitting loosely in the saddle. I never met with a sprain of the pronator radii teres, and I am not satisfied with Mr. Morris's explanation that it is the back stroke, because I have seen a great deal of racquet playing, when the back stroke is constantly practised, and I never heard any complaint such as Mr. Morris describes as the lawn tennis arm. I should be more inclined to attribute the accident to the heavy tennis ball and bat, which latter is year by year becoming heavier, and naturally taxes severely all the muscles having their attachment or insertion in the radius, the heavy bat being at the end of a long lever.

There is another accident which was very common during the Badminton rap in India, and I have also seen it at home with lawn tennis—viz., acute pain of the external condyle of the humerus, with occasionally swelling and thickening of the bone. I attribute this accident to the head of the radius constantly jarring against the condyle during the game.

I remain, Sir, yours faithfully,

C. A. INNES, M.D.,
Deputy Surgeon-General, H.P., A.M.D.,
late Surgeon-Major, 16th Lancers.

Hull, Aug. 1st, 1882.

"VACCINATION IN SCOTLAND."

To the Editor of THE LANCET.

SIR,—In your annotations last week you refer to vaccination in Scotland, pointing out some defects which would be remedied by a partial adoption of the English system. 1st. You look upon the provision that "no child need be vaccinated until it is six months old" as a disadvantage in our system, whereas here we consider that as the chief reason why vaccination is with us so popular, and so little liable to be followed by bad results. It is well known that constitutional diseases, such as syphilis and ecthyma capitis, manifest themselves in the first three months of life, and these, if following vaccination, are popularly believed to be the result of that operation. If we wait until the fourth or fifth month we, in a great measure, escape these dangers, and are more certain to have uncontaminated lymph. 2nd. "Many escape until the age of nine to twelve months, on account of the want of a system of inspection." This indeed must be extremely rare when the registrars do their work faithfully, and in that they are well looked after by the periodical examiners. 3rd. "The absence of Government grants for special success is much felt." I have practised in Scotland now for several years, and have never once heard this complained of, but have often heard my professional brethren criticise severely such a system in England. It is rather a slur upon the profession generally to think that without some specially recognised reward they will not properly perform their duty. 4th. Ample provision is made for all those who are unable to pay the vaccination fee. 5th. "In truth the lymph in general use is thoroughly humanised." This again is a mistake. It may be in the hands of some, but in our district at least this is not general. 6th. "Effectual protection in the face of a virulent epidemic cannot be anticipated unless the vaccination is not only as regularly, but much more thoroughly, performed

than it is at present." In answer to this, I can only point out the freedom of Scotland from small-pox, and I should hardly think you would wish better proof of the success of our system.

I shall be glad if this letter will in any way assist in altering the views of the profession in England so that they may adopt the six months' limit instead of three, which I am sure would materially assist in stopping the continual prosecutions in England, and in rapidly increasing the popularity of the operation.

I remain, Sir, yours truly,

Hawick, July 31st, 1882. JOHN R. HAMILTON, M.D.

DRY AND INFREQUENT WOUND DRESSING.

To the Editor of THE LANCET.

SIR,—Dr. Edward Thompson's communication on Puffball and Dr. Lockhart Gibson's on Salicylic Silk for Wound Dressing, in your current number, suggest a few observations on the principles underlying the treatment. Those materials have the common character of being dry and absorbent, and, in the case of the salicylic silk, it is especially noticed that the dressing was renewed infrequently, sometimes not until the twelfth or fifteenth day.

The discussion on wound treatment has brought more and more into prominence the value of infrequent dressing, on which the majority of surgeons are now agreed. Dry dressing is also gaining largely in favour. The value of rest is universally conceded, and of position rarely questioned. Pressure is also, though more slowly, winning the place it merits in surgical therapeutics; and I venture to think the time is not far distant, when general assent will be given to the proposition which I have repeatedly had the privilege of sustaining in these columns: "The majority of wounds heal rapidly and painlessly under dry and infrequent dressing, uniform gentle pressure, and absolute rest."

I am, Sir, yours faithfully,

Birmingham, July 31st, 1882. SAMPSON GAMGEE.

"SANITARY STATE OF MARYPORT."

To the Editor of THE LANCET.

SIR,—Amongst your annotations in THE LANCET of July 22nd, I find one on "The Sanitary State of Maryport," casting certain reflections upon me as the sanitary medical officer, to which, in justice to myself, I feel called upon to make some observations; for I must tell you that the article is one series of misrepresentation from the beginning to the end. First, there was no typhus in April, 1881. In the next place, I never talked such nonsense as you have put between inverted commas. Neither was there one or two hundred cases of typhus; for though suffering from the effects of an accident, and unable to attend myself, I am satisfied that nearly all the typhus cases were attended by Dr. Little, and therefore known to me. Again, the sanitary authority has a right to send fever patients to the infirmary, which is not above a rag-store, but is above an old unused malting-room, the floor of which is made of concrete, therefore it is impossible for the effluvia from any store to enter the wards; neither can the sewage from the infirmary percolate into any stores. Such are the misstatements of which I think you will agree with me that I have a right to complain. I am not here about to enter upon the sanitary question of the town; for I have neither the time nor inclination at the present to do so; but I can say that it will compare in that respect with any town in Cumberland. That there is still a great deal to be done I know well; but in my opinion such sensational writing as is contained in your article has a very great tendency to do a very great deal more harm than good, and would not, therefore, have been noticed by me if it had not appeared in the pages of THE LANCET. To show you that I am no tyro in the profession I must tell you that for about thirty-six years I have been the medical officer of the Maryport District of the Cockermouth Union, with a population of some 16,000. During all that time I have advised not only the guardians, but the trustees also, as to the carrying out of the various Orders in Council long before there was any sanitary authority. Consequently, I have had to take a leading part in the care and treatment of the sick through all the various epidemics which have invaded us during all those years. I need not tell you, then, that I claim some consideration for my opinion on the various subjects connected with sanitary matters, though they may be antagonistic to the opinions of others, as to the reckless systems of sewerage, &c., advocated by many at the present day.

In conclusion, I hope, Sir, you will give this letter the same publicity you have thought fit to give to the article in your annotations. As a public officer I know that my actions are open to criticism, and I have no wish to shirk the responsibility; but I have a right to expect that that criticism will be truthful.

I remain, Sir, yours truly,

Maryport, July 24th, 1882. JOSEPH PEARSON, M.D.

*** In addition to the above letter from Dr. Pearson, we have received a local paper in which there is a letter from Dr. Pearson on Mr. Spear's report in May last, and we have also received the subjoined letter from Mr. Mathias. Taken together they are, in our opinion, confirmatory of the main points in Mr. Spear's official report, on which we commented. Mr. Mathias's letter speaks for itself, and Dr. Pearson's letter of May, in so far as it deals with matters referred to in our annotation, admits that the hospital is "insufficient" and "out of order," that "it is impossible to ascertain" the number of cases of fever, that it would be well if the Sanitary Authority could "rebuild the town," that it would be well if the cellar dwellings "could be closed as such," that "no one can deny that there is room for improvement in the scavenging," and that as regards sewerage he "would have none of it" until what amounts to perfection from an engineering point of view can be attained. The portions of our annotation in inverted commas, and to which Dr. Pearson objects, were quoted from the official report of the Local Government Board.—ED. L.

To the Editor of THE LANCET.

SIR,—In your annotation on the above subject in THE LANCET of July 22nd, after animadverting upon the wretched condition of many of the dwellings in the town, and especially as to overcrowding, you express the hope that the case quoted by Mr. Spear, the Local Government Board Inspector, in connexion with that subject "may be an exceptional one even in Maryport, whose sanitary condition seems almost incredible." But I assure you, Sir, it is not the exception, but I might almost say the rule; there are scores of wretched tenements in Maryport entirely devoid of every requirement considered absolute necessities by any civilised community, where overcrowding exists to a shameful extent, and where common decency in regard to the separation of the sexes, in many cases, is not even observed. A correspondent in the *Maryport Advertiser* very recently, in calling attention to the general insanitary condition of the town, thus describes a case in point:—"In a former communication I alluded to the dangers of overcrowding now that such a large number of extra labourers employed at the new dock are residents in the town. I was forcibly struck a few days ago with the necessity that exists for the constant supervision and attention of the inspectors in that respect. In a house in Furnace-road, consisting of a kitchen and a bedroom, where the latter was not more than 10 ft. or 12 ft. square, a man and his wife and seven children, and a lodger, a labourer at the quarries, were sleeping! The poor woman herself and one of her children were lying ill in one of the wretched beds, suffering, I have no doubt, judging from the symptoms, from typhoid fever, one of the other children having died a few days previously from the same complaint. Is not this a very sad and terrible condition of affairs, and can nothing be done to remedy or prevent its recurrence? One would think that a man and his wife and seven children were enough, in all conscience, to sleep in a room of such dimensions, without taking lodgers! And yet I have no doubt that there are numberless other cases equally sad and shocking if they were only made known."

The same correspondent, in a subsequent communication,

dated June 9th, in alluding to a fatal case of typhus fever that had occurred in a house up one of the narrow passages leading out of King-street, remarks that "these premises are utterly unfit for the habitation of a family of seven or eight persons as at present occupy it; indeed, I might say of a family at all. It consists of two small rooms, one above the other, built against the back wall of the house behind, with no means of ventilation, save by a small pane of glass in the window opening on hinges. There is no privy accommodation whatever. Fancy a boy ten years old lying ill of typhus fever in the one little room upstairs, with no means of ventilation save the little pane of glass on hinges, inhaling all day the air made poisonous by his own excretions! And what must have been the condition of the room when the rest of the family at night betook themselves to it for repose?"

From my own experience, Sir, I could give you many other cases equally bad and incredible, but perhaps these are sufficient for the present. But what are we to say or think of an authority that permits such a state of affairs to exist in its midst without taking one single step to abate or remedy it? They cannot plead ignorance, because the report of Mr. Spear brings conviction home to the mind of every intelligent being that, in this and all other respects, the sanitary condition of the town is a disgrace to any community claiming the least affinity to civilisation; and yet I am quite convinced that, unless compelled by the Local Government Board, nothing will ever be done by the local authority to carry out the recommendations of Mr. Spear.

Your obedient servant,

Maryport, July 27th, 1882. W. B. MATHIAS.

P.S.—As an instance of the manner in which disinfection was carried out by the sanitary authority, I may relate what took place in a miserable back dwelling in one of the passages between Catherine-street and Queen-street, whence a case of typhus fever had been removed to the infirmary, and which terminated fatally a few days after. I asked the woman if the house and furniture had been disinfected, and she replied, "Oh, yes." "What was done to it?" "Well, the inspector gave me some lime and lent me a brush and told me to whitewash the walls, and I did." "Did anyone help you?" "No." "Were the bedclothes washed and disinfected?" "No, how could they when we were using them" (it was scarcely necessary to have asked that question, as their appearance sufficiently attested the fact of their non-acquaintance with soap and water since they left the shop); "but I put the mattress out in the air for a good bit, and made it as sweet as a nut." Thus it will be seen that those things in the house, such as the furniture, and above all, the bed and bedding where the infection is sure to be the most tenacious, were absolutely left in the same condition as when the fever case was removed from them.

SALICYLIC SILK.

To the Editor of THE LANCET.

SIR,—Mr. Lockhart Gibson, in your issue of to-day, gives the results of cases treated in Mr. Chiene's wards by means of salicylic silk. He states that the method of treatment adopted "differed from that used in Leeds in this essential—viz., in the use of no mackintosh." In this he is mistaken. Since I first brought this dressing before the notice of the profession, some eighteen months ago, I have used no other dressing in antiseptic cases, and have always used it without the mackintosh. I have reason to know that the practice of the surgeons of the Leeds Infirmary has been the same. Indeed, the chief advantage of salicylic over carbolic acid dressings lies in the fact that they can be used without the mackintosh; the wound is thus kept comparatively dry, putrefaction is less likely to occur, and early healing is induced. The only difference between the Edinburgh and Leeds practice seems to be that in Edinburgh the dressing is completed by covering the silk with a large pad of gauze; while in Leeds we dispense with the gauze pad, and substitute for it one of silk enclosed within two layers of gauze. This is a matter of little moment, but our plan has the advantage of economy, and a larger experience has shown it to be equally efficacious.

I am, Sir, your obedient servant,

Leeds, July 29th, 1882. A. F. MCGILL.

GLASGOW.

(From our own Correspondent.)

THE usual graduation ceremony at the University took place on Thursday, July 27th. Of the 109 aspirants to academical degrees in medicine only seventy-six were successful. Professor Charteris' valedictory address to those who had just been "capped" was full of interest and instruction; it took the form mainly of plain and practical advice regarding the various careers open to those just licensed to practise medicine, and was evidently listened to with enjoyment and profit. He pointed out the advantages likely to be derived from a residence at one of the foreign schools of medicine, though he was inclined to think that these were not so great as is generally supposed, maintaining that in the application of the theories and facts of science to the treatment and prevention of disease the English are vastly ahead of the continental nations. He then very properly warned the graduates against continuing long in the mercantile marine service should they have occasion to go to sea as ship surgeons; and concluded by indicating the qualifications necessary for success in the various branches of modern practice.

It is generally understood that our Royal Infirmary is about to lose the services of Dr. M. Thomas as superintendent. Dr. Thomas has fulfilled the duties of this very trying position for many years now with general satisfaction.

SCOTTISH NOTES.

(From our Correspondent.)

PROFESSOR STRUTHERS was in his war-paint last week. The fighting attitude is not an unusual one with him, as some of his colleagues very well know. His hits are hard, for the most part well considered, and with an almost certain delivery. He had a congenial subject on which to address his students at the end of the summer session, and had no difficulty in proving to their satisfaction how fortunate they were to come so far north for their instruction. He showed that while in regard to the Arts course the Scottish Universities were perhaps behind those of England and Germany, such could not be said of the medical. Those connected with medical education in England believed that whatever exists there is by far the best, whereas in his opinion there was no country in Europe so far behind as England—their system of medical education was positively the worst. The medical teaching in Scotland was excellent, and if Cambridge did but a tenth part of what is done in Aberdeen in this connexion, the world would hear of it. Hard work is the characteristic of the Aberdeen Medical School. Certainly, when Dr. Struthers looks around at his splendid facilities for teaching, and feels how much these are undoubtedly due to his own exertions, when he considers his own devotion and constant assiduity as a teacher, he may well feel proud and complacent. In each of the Scottish Universities the teachers of the purely scientific branches are men whose energies and lives are devoted solely to one subject, and they may be excused for their occasional hint at the opposite conditions which obtain further south. Again, our Gairdners, Pirries, Maclagans, &c., devote their best efforts to teaching, and only lay aside their gowns when, from old age, they feel that they are no longer fit to do justice to their students. Throughout life their highest honours come from teaching, and success in practice is not allowed to detain them from their classes or their wards. All this is highly favourable to good teaching; but Professor Struthers is perhaps wrong in assuming that the English do not admit the excellence, as for many years an entirely disproportionate number of students come from that and other English-speaking countries—the best proof of the real opinion held on the question. The prize-lists of the Aberdeen University show another element of strength which the teachers fully acknowledge: I notice that in one class the first four men have their M.A. degrees. This is material easily wrought.

During the past few weeks several prosecutions—the first in Scotland—have occurred under the Factories Act. Medical men have long known that young women frequently made complaint of the lengthened hours during which they were called to work on but slight necessity.

Certifying surgeons would assist these poor people, as well as the interests of justice, were notes of the complaints made in the consulting rooms, both with regard to overtime and vitiated atmosphere, kept for the use of the inspectors in every case where the same employers were frequently shown to be at fault, and especially where private remonstrance is ineffectual. The prosecutions in Edinburgh, Dundee, and Aberdeen were merely meant as reminders; but in future greater severity will be used.

While satisfaction is generally expressed with regard to the appointment of Mr. Chiene, there was, apparently, surprise felt by many who deemed themselves the possessors of special knowledge. So much is this the case that one proposed candidate at least, and a most creditable one, felt it advisable not to put forward his claims, as he was assured that another than Mr. Chiene was certain of the appointment. To the majority of the curators—gentlemen nominated by the town council—the choice must have been most irksome, and, though they have for once been judicious in their selection, the profession would most gladly see their patronage transferred to other hands.

IRELAND.

(From our own Correspondent.)

THE Belfast Hospital for Skin Diseases is a very valuable institution, as evidenced by the increased numbers who avail themselves of the advice and care which by it are placed within their reach. Many of these cases are among the most painful and trying, and others are of so contagious a nature that it is of importance to the community that every precaution should be taken against their spreading. The number of patients treated last year was 1167 (79 intern and 1088 extern), those admitted to the wards being very much in excess of the previous year. The expenditure was in excess of the income, but a bequest of £1000 will shortly be obtained from the executors of the late Mr. George Bend.

A vacancy has arisen in the City of Dublin Hospital for a visiting physician, in consequence of the appointment of Dr. J. Magee Finny to the King's Professorship of the Practice of Medicine in the School of Physic of the University of Dublin, which carries with it the post of physician to Sir Patrick Dun's Hospital. It is generally believed that Dr. Duffey, at present attached to Mercer's Hospital, will be selected to succeed Dr. Finny, which would cause a vacancy for a physician to Mercer's Hospital. The latter institution is one which requires purchase money for its medical and surgical appointments, the price averaging from £1000 to £1500.

Dr. Henry MacCormac, of Belfast, has recently published a pamphlet on the Etiology of Tubercle. Dr. MacCormac believing, as he does, that the cause of phthisis is due to the inhalation of rebreathed air, and that perfect ventilation is the antidote, is antagonistic to Koch's theory as to the cause of the disease—viz., that tuberculosis is a parasitic disease, the parasite being a bacillus about as long as a blood corpuscle; and that the affection is communicable by infection, or conveyed into the system by dust. The author does not contend that bacilli are not found in tuberculous subjects, but his chief argument appears to be that before there can be tuberculous bacilli the man or brute must be tuberculous.

The emigrant lodging-houses in Queenstown appear to be very much overcrowded, and the attention of the Board of Trade has been directed to the subject, which is at the present time of importance, as fever prevails in the town. It has been publicly stated that as many as 170 persons of a night have been kept in one or two of these lodging-houses; a condition of things which could not exist if the Town Commissioners would insist on the regulations required by law being strictly enforced.

Two men were suffocated on board the vessel *Woodlawn* last March, and the owners were last week fined £30 for their negligence in not having the forecastle properly ventilated.

The death is reported at Coppenagh of a widow, Margaret Melady, at the mature age of 105.

An election for a medical officer to Portaferry Dispensary District, in the room of the late Dr. Filson, will be held next week. The salary attached to the post is £115 per annum, and fees.

Mr. Thomas Higgins, L.R.C.S.I., medical officer of Clonaslee Dispensary District, has been elected a coroner for the Queen's County.

PARIS.

(From our Special Correspondent.)

YESTERDAY afternoon the Academy of Medicine held its annual meeting, and a list of the prizemen and medalists was read by the Secretary. In one instance there was no award, because no memoir had been sent in for the prize, and in others the competing essays were not considered to be of sufficient merit. The Civrieux prize of £60 went to Dr. Ballet; the Capuron prize (£80) to Dr. Belugou. The Desportes prize was divided between Dr. E. Vidal, for his work on the Treatment of Prolapsus of the Rectum by Hypodermic Injection of Ergotine, and Dr. Campardon. MM. Lucas-Championnière and H. Toussaint were awarded £48 and £32 respectively, the total forming the Prix Amussat. An important prize of 10,000 francs (£400), but which is only awarded once in six years, was divided between Drs. Bigelow (of Boston) and Th. Auger, the former taking £240 and the latter £160. M. Toussaint, of Toulouse, receives an encouragement to continue his researches concerning the cholera of fowls and acute experimental septicæmia in the shape of the Barbier prize, the value of which is £240. The enumeration of all the awards would be tedious, but it may interest your readers to know what are the prizes and what the subjects for 1883. Perhaps some industrious workers in England may be stimulated to enter the list. The Prix de l'Académie is 1000 francs; the subject, to determine the Clinical Value of Antiseptic Methods in Surgical Practice. Prix Portal, 1000 francs, Is Tubercle of Parasitic Nature? Prix Civrieux, 2000 francs, Hysterical Paralyses and Contractures. Prix Capuron, 2000 francs, on the Influence of Sea-bathing in the Scrofula of Children. Prix Godard, 2000 francs, for the best work on External Pathology (Surgical Disease). Prix Barbier, for the Discovery of a Cure for any Disease reputed to be Incurable, such as Epilepsy, Hydrophobia, Cancer, Cholera; part of it may be awarded for advancement in this direction. Prix Desportes, 1500 francs, for the best work on Medical Therapeutics. Prix Daudet, 1500 francs, Lymphadenoma. A prize of 2000 francs, under the name of the Prix de l'Hygiène de l'Enfance; subject, to determine by precise Observation the Rôle of First Dentition in Infantile Pathology. Prix Amussat, 2000 francs, for a work based upon Anatomy and Experiment leading to progress in Surgical Therapeutics. Prix Saint-Lager, 1500 francs, for the Discovery of a Cure for Goitre. Prix Saint Paul, 25,000 francs, for the Discovery of a Cure for Diphtheria; the interest of the capital may be awarded as an encouragement for work in this direction.

The account given in the last letter of M. Laborde's lecture, and the disturbance created by a lady anti-vivisectionist, does not appear to be quite correct. The meeting, instead of breaking up in confusion, was only interrupted for a few minutes, during which time the fair zoophite let off her virtuous indignation, and declared that the intended demonstrations should only take place after her blood had been mingled with that of the frogs. Force being out of the question, and the lady having determined to occupy the position she had achieved, M. Laborde invited her to share the professorial chair, and act, as it were, as censor, promising to pay attention to any objections she might make. Thanks to his tact, the lecturer was able to carry out his programme; and when he had finished he congratulated his unexpected colleague on the opportunity she had given him of vindicating science. This correction is worth making, the more so as a great deal of unnecessary fuss and misrepresentation have crept into the papers about the incident.

At the present moment there is a case of nervous disease in the Beaujon Hospital which seems to interest all Paris. The daily papers publish bulletins concerning the *dormeuse*, as the patient is termed; and as her identity is unknown, everyone is looking forward with curiosity to the time when the sleeper shall awaken and unravel the mystery. Briefly the facts are as follows: Between two and three months ago, on May 12th, the police

found a woman in a state of intoxication. They took her to the station, and at that time she was able to articulate a few words, hiccoughing, "Oh, what a lot of beer I have drunk." In the course of the evening she sank into a state of torpor, and was taken to the hospital, where she has remained ever since. For seventy-four days she remained in a state of lethargy, kept alive by liquids only, and not uttering a sound. When she was found to be *enceinte*, it was thought that the expulsion of the fœtus would be sure to lead to some change; but about a fortnight since a five-month miscarriage occurred, the patient remaining to all appearance absolutely unconscious. It was then determined to try cold douches, and the second was so far successful that the patient is now able to swallow solid food. She remains, however, to a certain extent aphasic, and unable to give any information concerning herself. The fact of her wearing a number of religious medals has the more excited public curiosity, and she is popularly supposed to have been abducted from a convent.

Paris, Aug. 2nd, 1882.

ROYAL COLLEGE OF SURGEONS.

AT an ordinary meeting of the Council, held on Thursday last, the consideration of the resolution, "That in future all candidates for the Primary or Anatomical and Physiological Examination, whether for the diploma of Member or of Fellow of the College, be only required to attend one winter course of lectures on Anatomy instead of two courses of such lectures," was, upon amendment, deferred until the meeting of the Council in March, 1883. The recommendation of the Joint Committee, "That the periods at which the Examination in Elementary Anatomy and Physiology shall be held, be determined by the teachers at the several medical schools, provided that an interval of not less than six months shall elapse between the date at which the candidates shall have passed the Examination and the date of their presenting themselves for the Primary Examination at the College," was, after some discussion, approved and adopted.

Mr. T. M. Stone was granted a retiring pension of £300 per annum in consideration of his long and valuable services.

A letter was read from Mr. Birkett resigning his seat as a Member of the Court of Examiners, the vacancy to be filled up at the quarterly meeting of the Council in October next.

MEDICAL NOTES IN PARLIAMENT.

IN the House of Commons on Thursday, July 27th, a petition was presented from Batley in favour of the Infectious Diseases Notification Bill. A copy was presented of the report of the Commission on Small-pox and Fever Hospitals in the Metropolis.

On Friday, Mr. Trevelyan stated, in answer to Mr. Biggar, that the Local Government Board had received contradictory reports from Belfast as to the alleged refusal of the master of the workhouse to admit aged and infirm persons who had urgent orders for admission, and that a fuller inquiry had been instituted.

The Army Hospital Corps.

General Fielden asked the Secretary of State for War whether he had any objection to state the result of the inquiry by the Committee presided over by Sir E. Wood into the charges of inefficiency and misconduct brought against the men of the Army Hospital Corps who served in South Africa; and whether he intended to take any action in the matter.—Mr. Childers said the general result of the inquiry was that the more serious allegations against the Army Hospital Corps had not been substantiated. He had, however, with the concurrence of the Duke of Cambridge, appointed a committee of inquiry into the whole organisation of the corps, and he hoped to be able to consider its report before he prepared the estimates for next year.

Adulterated Butter.

In a discussion on the Board of Trade vote in Committee of Supply, Mr. Biggar complained of the injustice of holding the retail dealer liable to a penalty for selling adulterated butter, whilst the importer of the same material carried on his business with impunity.—Mr. Chamberlain replied, that the Adulteration Acts rendered a person liable to a penalty of £20 who sold oleomargarine as butter, without declaring to the purchaser the nature of the material.

On Monday, a petition was presented from Barry against the Lunacy Districts (Scotland) Bill. This Bill stands for the Committee stage on Friday.

On Tuesday, four petitions were presented from London and one from Norwich in favour of the registration of midwives. A petition for redress of the grievances of militia surgeons was presented from the South Wales Branch of the British Medical Association.

Coffee Mixtures.

In Committee on the Customs and Inland Revenue Bill there was considerable debate on the Government proposal for the taxation of imitations of coffee and of coffee mixtures. An amendment by Mr. Magniac, providing that each packet should be labeled with a prominent statement of the substances of which the mixture is composed, was agreed to. Mr. Cavendish Bentinck moved another proviso, that the percentage of coffee contained in the mixture should also be stated, but this was resisted by the Government on the ground that it would be impracticable to state the percentages. In the course of the discussion Mr. Macfarlane warmly complained that the poor were being cheated and poisoned by adulteration. Mr. Courtney expressed his opinion that the proposal, if adopted, would be a piece of "great-grandmotherly" legislation. Eventually the amendment was rejected by 114 to 73. On Wednesday, an additional amendment was inserted permitting the sale of coffee mixtures in quarter-pound packets; previously the limit was half a pound.

The Carriage Duty.

Clause 9 of the Customs and Inland Revenue Bill, which related to the proposed increase of the carriage duty, was struck out.

During the evening a supplementary estimate was laid on the table for the purpose of augmenting the grant in aid of medical relief in Scotland from £10,000 to £20,000.

Navy Hospitals.

On Tuesday, Mr. Gorst asked whether, in the event of a hospital-ship being sent out to Alexandria or a naval brigade being landed in Egypt, the services of any of the Sick Berth Staff of the Royal Navy now employed in the Royal Navy Hospitals would be utilised.—Mr. Campbell-Bannerman: Yes. The services of any of the Sick Berth Staff, whether at present employed in the navy hospitals or in the flagships, will be utilised in Egypt as required.

On Wednesday, the order for the second reading of the Bill for repealing the compulsory clauses of the Vaccination Acts was discharged, and the Bill was withdrawn. A copy was presented of the 37th report of the Scotch Board of Supervision of Poor Relief and Public Health.

Analyses of Butter and Milk.

Lord E. Cecil asked the President of the Board of Trade whether his attention had been drawn to the report of Mr. Blyth, analyst under the Adulteration of Food Act to the Devonshire Court of Quarter Sessions, dated June 13th, 1882, in which, speaking of the adulteration of butter and milk, he compared the difference of limit between the public analysts of 1874 and that of the Somerset House certificate at the present time; and whether he proposed to take steps in the interest of the public to raise the standard of purity in both these articles.—Mr. Dodson confirmed the citation from Mr. Blyth's report, and said there was no doubt as to the difference of opinion of those two bodies. The Somerset House analysts, however, were not alone in their opinion. The Local Government Board were now in communication with them on the subject; but at present he was not prepared to say whether it was practicable to fix any such standard of purity with regard to these natural products as would effectually protect the public from adulteration whilst securing the honest dealer from persecution. Mr. Dodson said further that the Local Government Board were in communication with the chief analyst at Somerset House, to ascertain whether, in his opinion, anything could be done to improve the present condition of things.

Alkali Works.

Mr. Dodson, in reply to questions by Mr. A. Arnold and Mr. Gore Langton, said an efficient system of inspection

was being built up under the new Act, but some experience would be necessary to fix the number of inspectors required. The list of works under inspection would be printed.

The Norwich Vaccination Inquiry.

Mr. Dodson replied to Mr. P. A. Taylor that the inquiry by the medical inspector at Norwich was not yet completed. He had heard that since the first group of cases a death very similar had occurred of a recently vaccinated child, but he had at present no information to show that it was due to vaccination.—Mr. Taylor said he would repeat his question on Tuesday.

Classification of Butter Substitutes.

Viscount Folkestone asked the President of the Board of Trade when the Statistical Inquiry Committee that was examining into the subject of the better classification of butter, oleomargarine, and other butter substitutes, was likely to issue their report, and whether he would communicate the result of that inquiry to the House.—Mr. Chamberlain said the report would probably be ready in a few days. It was for the Treasury to decide whether it should be laid on the table. It would deal with many other subjects besides those to which the noble lord referred.

Emigrant Ships.

Mr. Moore asked the President of the Board of Trade whether there were a number of emigrant ships which, on their homeward voyages, came to this country laden with cattle, returning to America with large numbers of steerage passengers; and if he could state what, if any, special precautions were enforced for the disinfecting and cleansing of those ships after each voyage with cattle.—Mr. Chamberlain said the vessels were thoroughly disinfected and cleansed after each voyage. They were subsequently inspected by a Board of Trade emigration and sanitary officer. Emigrants would not be allowed to travel by these vessels if they were in a condition dangerous to health.

Vivisection.

In the House of Lords the Earl of Shaftesbury had the following notice on the paper: To ask the Under-Secretary of State for the Home Department whether Dr. Charles S. Roy, having received a licence for vivisection in 1881, received also a certificate for the same year permitting experiments on living dogs and cats; also whether he received any such certificate for the year 1882. The noble earl, however, was not in his place, and the question was postponed.

Obituary.

HENRY DODGSON, M.D., L.R.C.S.E., &c.

DR. HENRY DODGSON, who died on the 10th ult. at his residence, Derwent House, Cockermouth, in the full vigour of manhood, after a few days' illness, of typhoid accompanied by pneumonia, was born in that neighbourhood forty-nine years ago of a good old Cumberland family. He studied at the Universities of Edinburgh and Paris, graduating M.D. at Edinburgh in 1856. Since then he had practised in Cockermouth and the neighbourhood for many miles round. Those who had the privilege of knowing him cherish the memory of his bright and manly expression, united with great modesty. Dr. Dodgson was beloved by all who knew him, and was buried with every mark of respect and honour, both military and Masonic, he being a major of volunteers and one of the best officers in the county, and Past Grand Senior Deacon of his Province. His contributions to medical, astronomical, meteorological, and other sciences made him well known to the scientific world.

PRESENTATION. — Dr. William Sinclair, house-surgeon at the Aberdeen Royal Infirmary, has been presented with a handsome amputating case by the students of his surgical class, in recognition of the care and efficiency with which he conducted the meetings.

THE Brighton and Sussex Eye Infirmary is being enlarged, or rather reconstructed, at a cost of £5000. The building will, it is expected, be ready for occupation by the end of the present year.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON. — The following gentlemen were admitted Fellows of the College on July 27th:—

Blane, Henry, M.D. Montpelier, Bombay.
Grant, James Alexander, M.D. Montreal, Ottawa.

The following gentlemen were on the same day admitted Members of the College:—

Grabham, George Wallington, M.D. Lond., Earlswood.
Herringham, Wilmot Parker, M.B. Oxon., St. Bartholomew's Hospital.
Jessop, Charles Moore, Whitehall-place.
Jones, Arthur Henry, M.D. Lond., Northampton.
Maclagan, Thomas John, M.D. Edin., Cadogan-place.
Mitra, Jogendra Nath, Keppel-street.
Richardson, Gilbert, M.D. Dub., Roland Gardens.
Routh, Amand Jules McConnel, M.B. Lond., Upper Montagu-street.
Shaw, John, M.D. Lond., Willoughby-road.

The following gentlemen were also admitted Licentiates of the College:—

Alpin, William George Patrick, Commercial-street.
Bamford, Charles Robert, Uttoxeter.
Banatvala, Hormasjee Edaljee, Eadsleigh Gardens.
Bass, Frederick, Union-road.
Bertram, Benjamin, Montagu-street.
Blatherwick, Henry, Rochester.
Buckell, William Robert, Romsey.
Cameron, John, Bilston.
Challinor, Cedric, Reedworth-street.
Chown, Henry Havelock, M.D. Kingston, Great Coram-street.
Collyns, Robert John, Middle Mall.
Cooper, Walter, South Hill, Park-road, Croydon.
Cox, Roland Frederic, Ryder-terrace, Twickenham.
Day, John Roberson, Camden-road.
Dendy, Walter Chester, Guy's Hospital.
Downing, Charles, Falmouth.
Durant, Robert James Anderson, St. Thomas's Hospital.
Evans, Thomas Jones, Edward-street.
Frost, George, Bedford-square.
Greaves, Thomas, M.D. New York, Regent-square.
Hoskyn, Donald Templeton, Isleworth.
McMillan, John Farse, Middlesex Hospital.
Marston, Francis Ernest, Ludlow.
Pocock, Alfred George Clarke, Brixton-road.
Pritchard, Samuel Evan, Tower Hamlets Dispensary, Stepney.
Reynolds, James Jones, Stoke-by-Clare.
Robinson, Wilford Vidal, Saffron Walden.
Strachan, William Henry Williams, Guy's Hospital.
Tait, Henry Brewer, Highbury Park.
Thornton, Hastwell William, M.D. McGill, Nicholas-street.
Todd, Charles Edward, Sussex Gardens.
Toller, Chas. Wm. Edward, St. Bartholomew's Hospital.
Viney, Josiah Ernest, M.B. Camb., Fernwood, Highgate.
Wightwick, Fallon Percy, Folkestone.
Williams, Evan, St. Paul's Crescent.
Zimmermann, Benjamin Frazier, Ealing.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. — Dr. William Joseph Lunn, the senior surgeon to the Hull Infirmary, was elected a Fellow of the College at a meeting of the Council on the 3rd inst., his diploma of Membership bearing date May 14th, 1838.

The following gentlemen, having passed the required examination for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 27th ult.:—

Dawson, George Herbert, Moor Allerton.
Dixon, Henry Charles, Putney.
Dowman, Charles Frederick, Castle Hill.
Dutton, William Henry, M.B. Edin., Edinburgh.
Faunce, Charles Edmund, L.S.A., Guernsey.
Holcroft, Henry, Sevenoaks.
Lynam, Robert Garner, L.S.A., Stoke-on-Trent.
Northcott, Arthur, L.S.A., Fulham.
Perez, George Victor, L.S.A., Teneriffe.
Williams, John Alexander, M.B. Aberd., Enfield.
Wise, Charles Henry, L.S.A., Launceston.

The following gentlemen were admitted Members of the College on the 28th ult.:—

Beattie, Robert, M.D. Queen's Univ. Irel., Ballymena.
Berry, John Bourne, L.S.A., Barna, Galway.
Bostock, John, L.S.A., Osgathorpe, Leicester.
Harris, Walter Thomas, L.S.A., Ipplepen, Devon.
Hoyland, Stanley Stenton, L.S.A., Rotherham.
Leadbeater, Thomas Edward, L.S.A., Bromley-by-Bow.
Morse, Thomas Rickett, L.S.A., Cheltenham.
Pollard, George Samuel, South Walsham.
Rogers, Thomas Edward, L.S.A., Bickerton, Devon.
Salmon, Arthur Guy, L.S.A., Truro, Cornwall.

The following gentlemen were admitted Members of the College on the 31st ult.:—

Bott, Joseph, L.S.A., Dunmow, Essex.
Beever, Hugh Reeve, L.S.A., Hingham, Norfolk.
Cox, Roland Frederic, L.R.C.P. Lond., Twickenham.
Durant, Robert James Anderson, L.R.C.P. Lond., Bengal
Howard, R. J. Bliss, M.D. McGill Coll., Montreal.

Hudson, Ernest, L.S.A., Harleston, Norfolk.
Lovegrove, Thos. Ernest, L.S.A., Wollaton, near Nottingham.
Roe, Arthur Dumville, B.A. Cantab., Ecclesiastical.
Tate, Alan Edmondson, L.S.A., Trent, Somerset.
Voss, Francis Henry Vivian, L.S.A., Clapton-square.
Williams, Evan, L.R.C.P. Lond., Bala, North Wales.

The following gentlemen were admitted Members of the College on the 1st inst.:—

Finch, Thomas, B.A. Cantab., Torquay.
Jones, Owen Clayton, L.S.A., Philpot-street.
Thomas, John Henry, L.S.A., Tenby.

Of the 284 candidates examined during the past fortnight 124 passed to the satisfaction of the Court and obtained their diplomas; 48 passed in Surgery, and when qualified in Medicine and Midwifery will be admitted Members; the remaining 112 failed to reach the required standard, and were referred for six months' further professional study. Ten candidates who had passed in Surgery at previous examinations, having subsequently obtained a Medical qualification recognised by the College, were also admitted Members. This is the last examination for the Membership of the College until November. The Museum of the College, which is now undergoing painting and decoration, will be closed from this date until further notice.

UNIVERSITY OF LONDON. — The following is the list of candidates who passed the recent Preliminary Scientific (M.B.) Examination:—

FIRST DIVISION.

Adams, Charles Edward, University College.
Althorp, Charles Frederick Manning, private study.
Balgarnie, Wilfred, Yorkshire College.
*Basu, Jagadish Chunder, B.A. Calcutta, Christ's Coll., Camb.
‡Bidwell, Leonard Arthur, St. Thomas's Hospital.
Blackler, Henry John, Guy's Hospital.
Blakiston, Charles Reginald, King's College.
†Brennan, Joseph Richard, Owens College.
Brock, Ernest Henry, Guy's Hospital.
Brook, Wm. Henry Breffit, St. Bartholomew's Hospital.
*Brown, Arthur Edward, private tuition and Univ. College.
Cameron, Robert Watson, B.A., Owens College.
†Canney, Henry Edward Leigh, University College.
*Carnegie, Douglas John, Epsom College.
Clarke, James Jackson, St. Bartholomew's Hospital.
Clarke, William Frederick, Guy's Hospital.
Cook, Samuel Bird, St. Thomas's Hospital.
*Cox, Alfred Edward, St. Thomas's Hospital.
Crook, Herbert Evelyn, Guy's Hospital.
Davies, Ernest Reuter, Guy's Hospital.
Dewhurst, John Henry, Owens College.
*Edge, Frederick, Owens College.
Elliot, William Henry Wilson, Guy's Hospital.
Evans, Isabel Clare, Mason College, Birmingham.
Gilchrist, Thomas Caspar, Owens College.
Harper, William Norton, Hoddesdon School.
Helsham, Hugh Paul, St. Thomas's Hospital.
Jecks, Cyril William, University College.
‡Joly, Antoine Maurice, University College.
Laing, Alfred William, King's College.
‡Legg, Walter Littlewood, Yorkshire and Clifton Colleges.
Macdonald, Isabella Macdonald, Univ. Coll. and private tuition.
*Macevoy, Henry John, St. Joseph's College, Clapham.
May, William Page, University College.
Pagden, Trayton Charles, St. Bartholomew's Hospital.
Permewan, William, University College.
Redfern, John Joseph, Queen's College, Belfast.
Roper, Harold Kennaway, Guy's Hospital.
Sansom, Harry Arthur, Univ. Coll. and St. Thomas's Hosp.
*Seville, Charles Frederick, Owens College.
Shirtliff, Edward Dickinson, St. Thomas's Hospital.
Simpson, Charles Shackleton, Guy's Hospital.
Smith, Alex. Rochfort, St. Barthol. Hosp. and private study.
Smith, Hugh, Guy's Hospital.
Solly, Ernest, St. Thomas's Hospital.
‡Stacy, John Herbert, Univ. of Edin. and Univ. Coll. Lond.
‡Stephens, Richard John, King's College.
Thompson, James Edwin, Owens College.
Tomlinson, William Henry, Owens College.
Toogood, Fredk. Sherman, Hartley Institution and Univ. Coll.
Tunstall, John Ogle, University College.
Wheaton, Samael Walton, St. Thomas's Hospital.
Wheeler, James Atkin, University College.
†Wilkinson, Percy John, Owens College.
*Wray, Richd., Spalding, Yorkshire and Elmfield Colleges.

SECOND DIVISION.

Anstie, William Charles, University College.
‡Aveline, Henry Talbot Sidney, University College, Bristol, and private study.
*Barker, George Henry, University College, Bristol.
Biddlecombe, Edward Henry, St. Bartholomew's Hospital.
Bidwell, Lawrence, Guy's Hospital.
Brown, Arthur Thomas, Guy's Hospital.
Burghard, Frédéric François, Guy's Hospital.
Burns, James, Owens College.
Burrell, Arthur William, London Hospital.
Carter, Weldon Cragg, Owens College.
Conolly, Charles Hamilton, St. Bartholomew's Hospital.
Coryn, Herbert Alfred William, Charing-cross Hospital.
Craig, Henry Edward, Guy's Hospital.
Crouch, Charles Percival, St. Bartholomew's Hospital.
Davidson, Harold, St. Bartholomew's Hospital.
Davis, Arthur Hobsworth, St. Bartholomew's Hospital.
*Dean, Henry Percy, University College.
Dobson, Leonard Charles Talbot, St. Bartholomew's Hospital.
*Duncan, Charles Herbert, Epsom College.
Featherstone, William Barlstrop, Queen's and Mason's Colleges, Birmingham.
Fisher, Theodore, Guy's Hospital.
Freeman, Ernest Carrick, St. Thomas's Hospital.
Furnivall, Bryan, St. Bartholomew's Hospital.
Godfrey, Albert Edward, St. Thomas's Hospital.
Halliwell, Thomas, St. Peter's Sch., York, and Yorkshire College.
Hammersley, Percy Herbert Vickers, St. Barthol. Hosp.
*Haring, Nathan Charles, Owens College.
Harris, Frances, University College and London School of Medicine for Women.
Hensley, Arthur Egerton, King's College.
‡Holloway, Samuel Frederick, Guy's Hospital.
Joseph, Arthur Hill, University College, Bristol.
Kanthack, Alfredo Antunes, University College, Liverpool.
§Kell, Edmund Delacourt, London International College.
Kelson, William Henry, London Hospital.
Kingsford, Edward Claude, Guy's Hospital.
Lang, Arthur Joseph, Epsom College.
†Legg, Cyrus, Guy's Hospital.
Lindow, Albert, King's College.
Lys, Henry Grabham, private tuition.
Marshall, Charles Frederic, Owens College.
Moore, Robert Lee, Queen's College, Belfast.
O'Reilly, George Hartley, private study.
*Pailthorpe, Mary Elizabeth, London Sch. of Med. for Women.
Pickering, Rowland Neville, Umfreville, private tuition.
Prall, Samuel Esmond, Guy's Hospital.
Pugh, John Williamson, University College of Wales and London Hospital.
Randall, Ernest Bidgood, University College.
Risdon, William Newt, Guy's Hospital.
†Roberts, David Foulkes, Owens College.
Scott, Arnold, Guy's Hospital.
Shadwell, Bertrand, St. Bartholomew's Hospital.
*Smith, Edmond Fauriel, St. Bartholomew's Hospital.
Smith, Henry Ernest Hill, King's College.
Smith, John Anderson, St. Bartholomew's Hospital.
*Smith, Robert Gillies, Univ. of Aberdeen and St. Bartholomew's Hospital.
‡Spreat, Frank Arthur, St. Bartholomew's Hospital.
Stadman, Frederick Osmund, Charing-cross Hospital.
Stocks, William Percy, Owens College.
§Stokes, Frederick William, Mason College, Birmingham.
Swayne, Walter Carless, Bristol Medical School.
Walis, William Kay, Owens College.
Wethered, Frank Joseph, Bristol Medical School.
Whitcombe, William Sandford, Epsom College.
Williams, Frederic Newton, St. Thomas's Hospital.
Wynter, Andrew Ellis, St. Bartholomew's Hospital.

* Passed in the Mathematics of the Intermediate Examination in Science, and are thus admissible to the B.Sc. Examination.
† Examination in Botany postponed.
‡ Examination in Physics postponed.
§ Examination in Zoology postponed.

ARMY MEDICAL SERVICE. — The following is the list of Surgeons on probation in this Service who were successful at both the recent London and Netley examinations. The marks gained at Netley are not shown in this table, as the final positions of these gentlemen are not affected by them:—

	Marks.		Marks.
*S. Westcott	2295	H. S. McGill	2065
†H. R. Whitehead ..	2230	A. A. Pechell ..	2060
R. M. Skinner ..	2200	C. R. Tyrrell	2050
C. R. Bartlett ..	2195	J. Hickman	1980
J. D. T. Reckitt ..	2175	W. B. Thomson ..	1975
T. A. P. Marsh ..	2150	H. E. Deane	1945
R. Kirkpatrick ..	2140	S. O. Stuart	1940
A. C. A. Alexander	2095		

* Gained the Martin Memorial Gold Medal.
† Gained the Montefiore Medal and Prize of 20 guineas.

INDIAN MEDICAL SERVICE. — The following is the list of Surgeons on probation in this Service who were successful at both the recent London and Netley examinations. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

	Marks.		Marks.
*H. H. R. Charles ..	5455	J. P. Barry	4852
†G. Duncan	5025	A. V. Andersun ..	4480
W. A. Sykes	4875	E. W. Reilly	4445
R. W. S. Lyons ..	4560	J. Scott	4150

* Gained the Herbert Prize, the Parkes Memorial Bronze Medal, and the Montefiore Second Prize.
† Gained the Prize in Pathology.

APOTHECARIES' HALL. — The following gentlemen passed the examination in the Science and Practice of Medicine, and received certificates to practise, on July 27th:—

Grigg, William Henry, Torrington, Devon.
Hulesberg, John Wild, Gipsy Hill, Upper Norwood.
Power, Charles Frederic, Bexhill, Hastings.
Roberts, Thomas Pritchard, Twyford, near Winchester.

Watson, Robert Walker, Highbury New Park.
Watson, William, High-street, Rochester.

The following gentlemen also on the same day passed the Primary Professional Examination:—

William Henry Carrington, Guy's Hospital; Charles John Maddison, Middlesex Hospital; William Kirman Pauli, Charing-cross Hospital.

OBSTETRICAL SOCIETY.—The Library of this Society will be closed from August 14th to September 14th.

MR. AXFORD, M.R.C.S., for thirty years Medical Officer of No. 3 District and the workhouse of the Bridgwater Union, has received a superannuation allowance of £25 a year.

A BAZAAR has been opened at Lydney for the purpose of raising funds for providing a hospital dispensary and experienced nurses for the poor of the district.

EASTBOURNE HOSPITAL FUND.—The result of the bazaar just closed is that £500 was realised towards the funds of the new Memorial Hospital, leaving about £1000 to be collected by the time the building is ready for opening.

THE formal opening of the new wing of the West of England Sanatorium at Weston-super-Mare took place on the 26th ult. The institution began in 1868, as a cottage hospital with four beds, and is now capable of accommodating 100 patients.

METROPOLITAN ASYLUM, CATERHAM.—Mr. George S. Seccombe, the Senior Assistant Medical Officer of this Asylum, having been appointed by the Secretary of State for the Colonies to fill the post of Medical Superintendent to the Trinidad Royal Asylum, has resigned his office at Caterham, and was recently presented with a handsome repeating chime clock by the staff of the Asylum as a token of their regard and esteem. The presentation was made by Dr. Stanley Elliot, the Medical Superintendent, who referred to Mr. Seccombe's long service, and also the interest he had taken in promoting the happiness of the patients during his residence at Caterham.

NATIONAL ASSOCIATION FOR THE PROMOTION OF SOCIAL SCIENCE.—At the congress of this Association, to be held at Nottingham from Sept. 20th to the 27th, the following questions will be discussed in the Health Department, the presidency of which has been accepted by Sir Rutherford Alcock, K.C.B.:—1. How does the employment of mothers in mills and manufactures influence infant mortality; and ought any, and if so what, restrictions to be placed on such employment? 2. What reforms are desirable in the administration of hospitals? 3. What are the advantages of a system of notification of infectious diseases, and what are the best means of carrying the same into execution?

AN interesting event, proving that the public are not always indifferent to the risks and anxieties involved in medical practice, especially the work of union surgeons, has just taken place in Buntingford. The labours of Dr. Smith, medical officer of the West District and the workhouse of the union, had recently, it appears, been unusually heavy and perilous in consequence of the existence of a large amount of infective disease in the infirmary. The infection, carried home by the doctor, seized upon his children, necessitating their isolation. A few friends and patients of Dr. Smith have accordingly presented a handsome tea and coffee service to Mrs. Smith as a token of sympathy with her in her trying experience in being isolated from friends in nursing her children.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

BARNES, ROBERT, M.D., F.R.C.P., has been elected one of the Honorary Consulting Physicians to the Chelsea Hospital for Women.

BOUCHER, ARTHUR HENRY, M.D.Edin., has been appointed House-Surgeon to the East Suffolk Hospital, Ipswich.

CAMPBELL, PATRICK EDWARD, M.B., C.M., has been appointed Senior Assistant Medical Officer to the Metropolitan District Asylum, Caterham, Surrey, vice G. S. Seccombe, resigned.

CRALLAN, GEO. EDW. J., B.A.Cantab., M.R.C.S., L.S.A.Lond., has been appointed Assistant Medical Officer to the County Lunatic Asylum, Cambridge, vice Cluss, resigned.

CUNNINGHAM, —, M.R.C.S., has been appointed Medical Officer for the First District of the Romford Union, vice McClure, resigned.

ERWIN, SAMUEL JAMES, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Openshaw District of the Chorlton Union, vice Brebner, resigned.

HATTON, G. STOKES, M.D., M.S.Dur., M.R.C.S., L.S.A.Lond., has been appointed House-Surgeon (Senior Medical Officer) to the North Staffordshire Infirmary.

MOULLIN, C. W. MANSELL, M.D.Oxon., F.R.C.S.Eng., has been appointed Junior Assistant-Surgeon to the London Hospital, vice Tay.

NEWCOMBE, FRANK, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Newton-on-Trent District of the Gainsborough Union.

SMALLMAN, BENJ. F., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Satterton District of the Boston Union.

SPACKMAN, HENRY ROBERT, L.R.C.P.Lond., M.R.C.S., L.S.A.Lond., has been appointed House-Physician to the Wolverhampton and Staffordshire General Hospital, vice Mortimer, resigned.

TINDALE, WENTWORTH RAYNES, M.B., C.M.Aber., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the New Hampton District of the Kingston Union.

WIGG, ALFRED E., M.D., L.R.C.P., M.R.C.S., L.S.A.Lond., has been appointed Honorary Medical Officer to the Children's Hospital, Adelaide, South Australia.

Births, Marriages, and Deaths.

BIRTHS.

BADCOCK.—On the 25th ult., at Buckingham-place, Brighton, the wife of Lewis Carter Badcock, M.D., of a son.

EUSTACE.—On the 30th ult., at Lowestoft, the wife of Surgeon-Major Edward Eustace, Army Medical Department, of a daughter.

GOODHART.—On the 24th ult., at Hervey-road, Blackheath, S.E., the wife of James P. Goodhart, M.D., F.R.C.P., of Weymouth-street, W., of a son.

INGLEDEW.—On the 30th ult., at 17, New-road, Woolwich, the wife of Geo. Ingledew, Surgeon, of a son.

LAST-SMITH.—On the 27th ult., at Mayfield, Torquay, the wife of Edward Last-Smith, L.R.C.P.E., L.R.C.S.E., of a daughter.

LEWIS.—On the 27th ult., at Radnor Cottage, Houston, Renfrewshire, the wife of William Lewis, M.D. Glas., L.R.C.P. Ed., L.R.C.S. Ed., &c., of a daughter.

NICHOLLS.—On the 9th ult., at Dominica, West Indies, the wife of H. A. Alford Nicholls, M.D., of a son.

VAN GEYZEL.—On the 29th June, at Bangalore, India, the wife of Surgeon J. L. Van Geyzel, Indian Medical Department, of a daughter.

WORLEY.—On the 23rd ult., at Brook Lodge, De Beauvoir-road, N., the wife of William Charles Worley, L.R.C.P.Lond., of a daughter.

MARRIAGES.

BECKINGSALE—SMITH.—On the 26th ult., at Christ Church, Lancaster-gate, Daniel Loftus Beckingsale, M.D., of Sydney House, Bedford-park, Chiswick, second son of J. E. Beckingsale, F.R.C.S., J.P., to Amy Florence, adopted daughter of the late George Smith, Esq., of Melmonth House, Ryde.

COLEMAN—MCKIE.—On the 27th ult., at St. Augustine's, Highbury New-park, Charles Alfred Coleman, M.D., of Hill-view, Streatham-common, to Jessie Mitchell, youngest daughter of the late Thomas McKie, of Halifax, Nova Scotia.

GREEN—BLAKISTON.—On the 29th ult., at the Parish Church of St. Andrew's, Rugby, George Richard Green, M.R.C.S. & L.R.C.P.E., of Inkberrow, near Redditch, to Maude Douglas, eldest daughter of J. B. Blakiston, M.A., Her Majesty's Inspector of Schools.

SANKEY—HALLER.—On the 27th ult., at Baschurch, near Shrewsbury, by the Rev. Douglas P. Ware, Herbert R. Octavius Sankey, M.B.Lond., to Marie A. Haller, eldest daughter of the late Dr. Moritz Haller, Landesgerichtsarzt, of Vienna.

WALKER—GARDE.—On the 24th ult., at St. Jude's, Southsea, Surgeon-Major John Walker, B.A., M.B., T.C.D., Army Medical Department, only surviving son of Samuel Walker, Esq., Portstewart, county Londonderry, to Mirrie, eldest daughter of Henry Prendergast Garde, Esq., Barrister-at-Law.

DEATHS.

BRUSH.—On the 8th ult., at Norwalk, Conn., Francis V. Brush, M.D. New York, aged 38.

ELKINS.—On the 21st ult., suddenly, at Wylde-green, Erdington, near Birmingham, Charles Elkins, M.R.C.S., of Denmark Villa, Weston-super-Mare, aged 78.

HOPKINS.—On the 1st inst., at Highbury New-park, N., Alfred Boyd Hopkins, M.R.C.S., aged 48.

HURST.—On the 29th ult., at St. Mary's-square, Kennington, William Hurst, M.R.C.S., aged 56.

MALE.—On the 29th ult., at Penn House, Yeovil (the residence of his brother-in-law), Henry D. Male, M.D. Brux., L.R.C.P. Lond., M.R.C.S., of Victoria-park-square, London.

PEPLOW.—On the 27th ult., at Lower Tooting, Surrey, Joseph Peplow, M.D., L.R.C.P., late of Great Russell-street, W.C., aged 76.

SAYER.—On the 30th ult., at Kenninghall, Norfolk, Thomas John Sayer, Surgeon, aged 56.

SMITH.—On the 31st ult., at the Paddington Provident Dispensary, Star-street, Edgware-road, William Smith, M.R.C.S., for 42 years House-Surgeon to the above institution, aged 71.

WOODWARD.—On the 25th ult., at King's Lynn, Edwin Woodward, L.R.C.P., in his 48th year. No cards.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

Lectures, original articles, and reports should be written on one side only of the paper.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

THE MEDICAL PROFESSION AND FRIENDLY SOCIETIES.

WE are sorry to see "The Prince of Wales" Lodge, Devonport, advertising in the *Devonport Independent* for a medical officer, in place of the late Dr. W. C. Wilson, deceased, at the rate of 2s. 6d. per member per annum. This is a very antiquated and inadequate sum for such a lodge. For years past good friendly societies have been aiming at giving their medical men at least 4s. a year, and in many cases 6s. We are aware of certain attempts to form huge associations for attending societies *en masse* and their families at petty rates of 2s. a year. This is thoroughly unworthy of the working classes as well as impolitic. When the wages of the working classes are increasing they should see that the remuneration of medical men for attending them and their families increases too.

"IN EVERY DEEP A LOWER DEEP."

THE modest terms on which the promoters of some dispensaries have been content to attend sick people, or rather to allow their unqualified assistants to attend them, have been exceeded by Mr. Timothy, physician and surgeon, 193, Regent-road, Salford. His fees are stated in a handbill, as follows:—"To meet the working expenses, the charge for each patient will be *sixpence*. A visit to any dispensary patient within the radius of one mile will be one shilling."

Dum Spiro Spero should refer to the article on Books in our Students' number, Sept. 10th, 1881. Information, brought up to date, will also be found in our forthcoming educational number to be issued on the 9th prox.

Messrs. Curzon and Co.—No doubt antiseptics will be employed, though that is a matter which will be left to the discretion of the medical officers. Application should be made to the Director-General of the Army Medical Department.

L. R. P.—We are not aware of the existence of an institution of the kind where patients are received at so low a fee.

"THE CAUSE OR CAUSES OF ACUTE TONSILLITIS."

To the Editor of THE LANCET.

SIR,—I had hoped that Dr. Atkinson's letter would have elicited some important information regarding the pathology and treatment of quinsy, an affection which many members of our profession suffer from, owing, I suppose, to the continued mental strain which they have often to endure. Speaking from my own personal experience, I have no hesitation in saying that anxiety is the chief factor in the causation of it. Next to it I would place over-exertion, then chills, irregularity in meals, defective ventilation, &c.

Having had seven attacks, and having consulted some eminent medical gentlemen, the treatment I have been led to adopt is, to say the least of it, very unsatisfactory.—I am, Sir, yours, &c.,

July 29th, 1882. TYRO.

Sig. Loesscher.—The number forwarded will be noticed in due course, but we cannot exchange.

Dr. Henry Davy.—The paper will be published very shortly.

"OBSCURE SKIN DISEASE."

To the Editor of THE LANCET.

SIR,—I will not venture to give a diagnostic opinion regarding the above. If "Enquirens" has not prescribed an ointment of chrysophanic acid, he should do so. I have successfully treated both obscure and obstinate cases of skin diseases with it.

I am, Sir, yours truly,

W. S. SYMES, L.K. & Q.C.P., and L.R.C.S.I.

Chesterfield, July 29th, 1882.

"A PIONEER MEDICAL COLLEGE."

THERE is, it appears, in the United States a certain establishment, with a medical title, which issues to the world a printed list of physicians addresses. "The following letter," says the *Philadelphia Medical Times*, "was recently received by this firm, and we give it in full as chronicling a new birth, and as an example of what material is required in this land of freedom for the construction of an institution which gives the right to practise medicine:—

'COLLEGE OF PHYSICIANS AND SURGEONS,
'JOPLIN, MO., 5, 28, 1882.

'GENTS,—Please send *price list* of *Doctors*, and *Druggist. Names*. by states as I want to mail *several thousand* Annual *Catalogues* to the *Profession*, all over the U.S.A. and canady. I am starting an embriotic Pioneer-Medical College and I must, of necessity, noise it around to the world to make it pay me. An early reply will greatly oblige your Respectfuly, &c. J. C. PETIT, M.D., Dean.'"

DISEASE STATISTICS IN CANADA.

AT the recent setting of the Medical Council of the College of Physicians and Surgeons of Ontario, a plan was approved whereby statistics of disease in the Dominion might be collected. The scheme proposed the appointment by the Federal Council of 144 medical practitioners whose duty it should be to report every week upon the diseases most prevalent, their severity, &c., in their respective districts. For this service each reporter is to be paid twenty-five dollars yearly.

TONGA.

DR. D. L. WALLACE, of Newark, N.J., contributes to the New York *Medical Record* his experiences in the use of tonga. He states that the results of the employment of the drug have in his hands been remarkably good, and he thinks it deserves a place among successful new remedies.

L.R.C.P. Edin.—The title mentioned cannot be used in connexion with this qualification.

Mr. Brookhouse.—Next week.

Dr. S. C. Smith (Halifax).—The paper will be inserted in an early number.

"RECOVERY FROM RABIES."

To the Editor of THE LANCET.

SIR,—I have read with special interest your note on Recovery from Rabies. I quite agree with you that to fix the date at which, in cases of recovery, the animal's saliva ceases to be infectious would be a great step in advance. I would suggest, however, that a still more pressing question is the date at which the saliva becomes infectious. A few months since a lay journal stated that if a dog did not show symptoms of rabies within ten days or so after he had bitten a person, the patient was absolutely safe from hydrophobia, for the reason that if the poison was in the dog's system it was either not sufficiently concentrated or not sufficiently active to do harm. I immediately challenged the editor of the paper to produce proofs of his statement, but, though he reiterated it, the required evidence was not forthcoming.

It certainly seems to me a reasonable supposition that canine rabies should have a definite period of incubation, and that the animal should not have the power of imparting the disease till towards the close of that period; but no medical practitioner in this town, as far as I have been able to consult them, can give me any information on the subject whatever, and our leading veterinary surgeon absolutely rejects the statement as untrue.

If you or any of your readers could bring forward any evidence on the point, it would help us to quiet the fears of many a dog-bitten patient.

I am, Sir, your obedient servant,

July 29th, 1882. A PROVINCIAL HOUSE-SURGEON.

Hammill will probably find the information he desires in Dr. Hardwicke's book "On Medical Education and Practice in all parts of the World."

R. & B.—No card enclosed.

Mr. W. A. E. Waller.—Six weeks from the time of attack was probably intended, which can hardly be regarded as too wide a limit.

"THE NEW DECISION UNDER THE REGISTRATION OF DEATHS ACT."

To the Editor of THE LANCET.

SIR,—If the decision of Mr. Chance at the Lambeth Police-court is to become law, the coroner's work will be largely increased. I saw a case this week, a very common one in practice among poor people. My diagnosis I *think* was correct, and my prognosis I *know* was, as I told the friends there was no hope, although I gave them a bottle of medicine. The following day they came for a certificate of death. According to Mr. Chance's law I am liable to a fine of £3 and £2 2s. costs. I do not intend to run any risks, and the next case I have I shall decline to certify, and bring the matter before the coroner and quote the new law. I am not so sure that he will agree with it.

I think that an immense number of your readers will consider themselves quite justified in giving the usual certificate of death after "one solitary attendance," which Mr. Chance holds does not amount to that degree of investigation and attendance of the patient's case which would warrant such an act.—I am, Sir, your obedient servant,

August 2nd, 1882. SPES.

ERRATA.—In Dr. Hill's letter on "Stamping out Small-pox," inserted last week, two or three printer's errors escaped correction. In the twenty-eighth line, for "inmate," read *inmates;* in the fortieth line, for "attack," read *attacked;* in the forty-fifth, for "quarantine," read *quarantined;* and in the eightieth, for "circumstance," read *circumstances.*

COMMUNICATIONS, LETTERS, &c., have been received from—Professor Yeo, London; Professor M'Kendrick, Glasgow; Mr. J. H. Hill; Dr. Ladendorf, St. Andreasberg; Dr. Taafe, Brighton; Dr. Pearson, Maryport; Mr. Douglas, Newbury; Dr. Thompson, Tyrone; Dr. Levis, Philadelphia; Mr. Makuna, London; Fleet-Surgeon E. T. Mortimer; Dr. Hamilton, Hawick; Mr. J. S. Wood, London; Mr. W. Rivington, London; Dr. A. Hubert, Brussels; Messrs. Bell and Co., Lancaster; Mr. Gamgee, Birmingham; Mr. Moir, Glasgow; Miss De St. Croix, Jersey; Mr. Jones, Cardiff; Mr. Bolton, Dover; Mr. Percy, Market Drayton; Dr. Althaus, London; Mr. Crondace; Messrs. Smith and Son, Birmingham; Mr. Norman, Cheltenham; Messrs. Pettit and Co., London; Mr. Ampton, Ilchester; Dr. Neate, Margate; Mr. Torrance, Kirkcaldor; Mr. Wheeler, Ilfracombe; Mr. Frampton, Weston-super-Mare; Dr. Tibbits, London; Dr. Sweeting, London; Mr. Curshaw, London; Mr. T. Cook, London; Mr. Shefferson, Swaton; Mr. Moore, Stourbridge; Messrs. Theakson and Co., Scarborough; Mr. Kitchen, Pickering; Mr. Benham; Dr. Vallance; Mr. Fergusson, Peebles; Mr. Jordan Lloyd, Birmingham; Mr. Mallins, Watton; Dr. Murphy, Sunderland; Mr. Symes, Chesterfield; Mr. Jenkinson, Southwell; Mr. Austin, London; Mr. Fraser, Salford; Mr. Gordon, Aberdeen; Mr. M'Gill, Leeds; Dr. J. Ashburton Thompson; Dr. C. A. Innes; Dr. Pocock, London; Mr. Walker, Longtown; Dr. Bedford Fenwick, London; Dr. Blanc, Bombay; Mr. Breary, Blackheath; Dr. Cleaver, Sheffield; Messrs. Evans and Sons, Liverpool; Dr. Allan Jamieson, Edinburgh; Dr. Owens, Long Stratton; Spes; Tyro; F., Whitby; W. B. M.; A Provincial House-Surgeon; F. C., Tunbridge; L.R.C.S., Peel; G Wigan; &c., &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Male, London; Mr. Wilson, Fulham; Dr. Woakes, London; Mr. Cairns, Wakefield; Dr. Macdonald, Liverpool; Mr. Sayer, Kenninghall; Mr. Sloane, Bradford; Mr. Bryan, Hornsey; Mr. Birch, Leek; Mr. Jones, Dowlais; Mr. Godfrey, Northampton; Dr. Jones, Towyn; Mr. James, Chelsea; Dr. Wadsworth, Clapton; Dr. Miller, Reading; Mr. Heely, Kensington; Mr. Hodgkins, Oxford; Mr. Farley, Ontario; Mr. Farmer, Bridgwater; Messrs. Atkinson and Co., Manchester; Mr. Finch, Colchester; Mr. Filleter, Wareham; Mr. King, Leeds; Mr. Lloyd, Sittingbourne; Mr. Wheeler, Manchester; Mr. Beaman, Newton-le-Willows; Mr. Morgan, Cullumpton; Mr. Kerr, Glasgow; Mr. Macdonald, Manchester; Mr. Needham, Gloucester; Miss Ogston, Peterhead; Messrs. Southall and Co., Birmingham; Messrs. Cuxson and Co.; Mr. Everard, Manchester; Mr. George, Worcester; Mr. Cave, Bradford; Dr. Duncan, Oldham; Dr. Kirwan, Cambridge Heath; Mr. Thompson, Liverpool; Mr. J. Walker, London; Mr. Shadgett, Gloucester; Dr. Fraser, Salford; Mr. Johnson, Reigate; Messrs. Ross and Co., London; Mr. Howard, Buckenham; Messrs. Thew and Son, Lynn; Mr. Ingledew, Woolwich; Mrs. Pigott, Preston; Mr. Bartleet, Worcester; Mrs. Grail, Hampstead; Medicus, London; Agricultural; Sanatorium, Bournemouth; Amicus; Medicus, Sheffield; Medicus, Newcastle-on-Tyne; M.D., Bexley; H. G., Leeds; Beta, Dundee; G. E. W.; T. F., Oldham; Scalpel, Uttoxeter; M.R.C.S.; M., Cork; Medicus, Seaford; Medicus, Darlington; X. Y. Z., Bolton; A. L.; H. D., Hampstead; Medicus; J. S., Lowestoft; &c., &c.

Daily Intelligencer, Maryport Advertiser, Animal World, Glasgow Herald, Pietermaritzburg Commercial Advertiser, Port Elizabeth Telegraph, Hampshire Advertiser, &c., have been received.

METEOROLOGICAL READINGS.

(Taken daily at 5.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, August 3rd, 1882.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
July 28	30·35	S.W.	60	58	79	66	55	·04	Cloudy
,, 29	30·29	S.E.	63	60	111	77	54	..	Hazy
,, 30	30·11	W.	68	62	117	80	54	..	Fine
,, 31	30·29	N.W.	61	56	113	74	50	..	Fine
Aug. 1	30·22	W.	65	62	100	76	57	..	Fine
,, 2	30·13	W.	60	65	123	80	58	..	Overcast
,, 3	30·17	N.W.	60	54	96	67	51	..	Overcast

Medical Diary for the ensuing Week.

Monday, August 7.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.

Tuesday, August 8.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, August 9.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.

Thursday, August 10.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, August 11.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.

Saturday, August 12.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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Notices of Births, Marriages, and Deaths are charged five shillings.

Cheques to be crossed "London and Westminster Bank."

ADVERTISING.

Books and Publications	£0	5	0
Official and General Announcements	0	5	0
Trade and Miscellaneous Advertisements	0	4	6
Seven lines and under (each averaging ten words).			
Every additional Line	0	0	6
Front Page ... per Line	0	1	0
Quarter Page	1	10	0
Half a Page	2	15	0
An entire Page	5	5	0

The Publisher cannot hold himself responsible for the return of testimonials, &c., sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on page 2, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Sons' Railway Bookstalls throughout the United Kingdom, and all other Advertising Agents.

Tables of Contents, with the Index of Advertisements, for each Number can be had on application to the Publisher.

Agent for the Advertising Department in France—J. ASTIER, 67, Rue Caumartin, Paris.